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Function of the precentral convolution in primates.

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Studies of cerebral function in rodents have shown the survival of habitual reactions after bilateral destruction of the electro-stimulable pallium and of the corpora striata.[1] The present experiments were designed to test the relations of the corresponding cortical areas in primates to the performance of habitual or voluntary movements.

Two Cebus monkeys were trained in manipulative movements of the hands; opening various types of latch boxes. When facility in these movements was acquired, the animals were subjected to an operation in which all of the electro-stimulable cortex anterior to the Rolandic fissure on each side was destroyed by cauterization. The animals were then kept without additional training until they recovered from the resultant paralysis. When recovery was sufficient to permit of grasping movements, retention of the latch-box habit was tested. Both animals showed perfect retention of the habits, reproducing the specific manipulative movements acquired through the initial training.

The experiment seems to prove that destruction of the so-called motor area of the pallium does not destroy the specific patterns of neural integration involved in habitual or voluntary movements and hence, that the motor area is not the chief normal efferent path from the cortex for voluntary movement.

On the basis of earlier work with rodents the suggestion is advanced that the motor pallium is to be considered a relatively primitive center for regulation of postural reflexes, facilitating the neural impulses for voluntary movement, but taking no direct part in their integration or transmission from the cortex.

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[1] Lashley, K. S., *Brain*, 1921, xliv.