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498. Lateralized right and left dyspraxias and complementary hemispheric dominance in patients with surgical section of the cerebral commissures

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Control of right and left extremities has been examined in patients who had surgical division of the forebrain commissures to treat intractable epilepsy. Disabilities appear on both sides; but the nature of the impairment on right and left sides is different, reflecting the specialization of the two hemispheres. Following cerebral commissurotomy in the right hander there is an ideokinetic apraxia, sometimes short-lived but invariably present, restricted to the left hand, often perseverative, and apparent for verbal instruction but not for visual demonstration. There is a limited coexistence of this dyspraxia with such related phenomena as grasping and proximal traction reaction. At the same time there is a constructional dyspraxia of regular appearance but variable duration, restricted to the right hand, often perseverative, and peculiar to visuo-spatial instruction rather than verbal instruction.

The intensity and duration of both dyspraxias depend upon the extent of ipsilateral control, the emergence of which tends to obscure their manifestation. Differences in age, education, degree of handedness and the amount of associated cerebral damage result in a wide spectrum of variability from one patient to the next. When suitable allowance is made for external cross-cueing and before the obscuring resumption of ipsilateral distal control, these two contrasting dyspraxias are distinguishable as dependent less upon differences in ideational level of abstraction than upon differences in modality of instruction in a setting of complementary lateralization of dominance for the requisite gnoso-praxic capacities.