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COROLLARY DISCHARGE: CIRCUITS TO PSYCHOSIS ***Guest Editors: Judith M. Ford and Daniel H. Mathalon***

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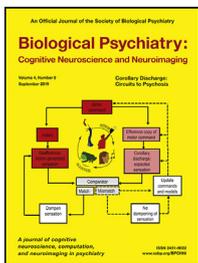
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As illustrated in the flowchart, motor commands and ensuing actions are accompanied by transmissions of an efference copy of the motor plan from the motor cortex, generating a corollary discharge of the expected sensory consequences. The corollary discharge is then compared to the real sensations, or reafference, resulting from the action. On the right, a poor match sends an error signal to the cortex to alter expectations or modify the action, as needed, resulting in little or no dampening of the sensation. On the left, a match results in a dampening or cancellation of sensation in the sensory cortex. It is through this comparison process that errors are detected and corrected, before the proprioceptive system has a chance to respond and implement corrective action. This is likely carried out by automatic side-loops in the cerebellum, outside of conscious awareness. This system allows all species to fluidly and flexibly navigate the environment and discount sensations resulting from the movement. Flowchart created by Judith Ford and Dan Mathalon. Art drawn by and courtesy of Jan Brascamp.
