Record Nr. UNINA9910974006003321 Autore Graziano Michael S. A. <1967-> Titolo The intelligent movement machine: an ethological perspective on the primate motor system / / Michael S.A. Graziano Oxford: New York,: Oxford University Press, 2009 Pubbl/distr/stampa **ISBN** 0-19-971679-X 1-281-92553-5 9786611925536 Edizione [1st ed.] Descrizione fisica ix, 224 p.: ill Disciplina 612.8/252 Motor cortex - Physiology Soggetti **Human locomotion** Animal locomotion Primates - Physiology Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Includes bibliographical references (p.199-217) and index. Nota di bibliografia Nota di contenuto Early experiments on motor cortex -- An integrative map of the body -- Hierarchy in the cortical motor system -- Neuronal control of movement -- What can be learned from electrical stimulation? --Complex movements evoked by electrical stimulation of motor cortex -- The match between natural neuronal properties and stimulationevoked movement -- The movement repertoire of monkeys --Dimensionality reduction as a theory of motor cortex organization --Feedback remapping and the cortical-spinal-muscular system -- Social implications of motor control. Sommario/riassunto In The Intelligent Movement Machine: An Ethological Perspective on the Primate Motor System, Michael Graziano offers a fundamentally new theory of motor cortex organization: the rendering of the movement repertoire onto the cortex. The action repertoire of an animal is highly dimensional, whereas the cortical sheet is two-dimensional. Rendering the action space onto the cortex therefore results in a complex patter, explaining the otherwise inexplicable details of the motor cortex organization. This clearly written book invludes a complete history of

motor cortex research from its discovery to the present, a discussion of

the major issues in motor cortex research, and an account of recent experiments that led to Graziano's "action map view." Though focused on the motor cortex, the book includes a range of topics from an explanation of how primates put food in their mouths, to the origins of social behavior, such as smiling and laughing, to the mysterious link between movement disorders and autism. The book is written for a general audience and should be of interest to experts, students, and the scientific lay.