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Nota di contenuto	Series Foreword; Contents; 1 Surface-Based Comparisons of Macaque and Human Cortical Organization; 2 Combined Human and Monkey fMRI Methods for the Study of Large-Scale Neuronal Networks in the Primate Brain; 3 Evolution of the Human Brain and Comparative Cyto- and Receptor Architecture; 4 Evolution of the Human Brain and Comparative Paleoanthropology; 5 Genes, Brains, and Culture: From Monkey to Human; 6 Quantitative Thinking: From Monkey to Human and Human Infant to Human Adult; 7 Neural Correlates of Numerical Cognition in the Neocortex of Nonhuman Primates 8 Evolution of Human Cortical Circuits for Reading and Arithmetic: The "Neuronal Recycling" Hypothesis9 Cooperative Brains: Psychological Constraints on the Evolution of Altruism; 10 Do Monkeys Understand Actions and Minds of Others? Studies of Single Cells and Eye Movements; 11 The Mirror Neuron System and Its Role in Imitation and Language; 12 Organization of the Posterior Parietal Lobe and of

Parietofrontal Connections; 13 A Prototype of Homo faber: A Silent Precursor of Human Intelligence in the Tool-Using Monkey Brain; 14 Parietal Mechanism of Selective Attention in Monkeys and Humans 15 The Rostral-Caudal Axis of Cognitive Control within the Lateral Frontal Cortex16 Primate Anterior Cingulate Cortex and Adaptation of Behavior; 17 Does the Human Brain Process Objects of Expertise Like Faces? A Review of the Evidence; 18 Representation of Object Images by Combinations of Visual Features in the Macaque Inferotemporal Cortex; Contributors; Index

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Sommario/riassunto

Leaders in cognitive psychology, comparative biology, and neuroscience discuss patterns of convergence and divergence seen in studies of human and nonhuman primate brains. The extraordinary overlap between human and chimpanzee genomes does not result in an equal overlap between human and chimpanzee thoughts, sensations, perceptions, and emotions; there are considerable similarities but also considerable differences between human and nonhuman primate brains. From Monkey Brain to Human Brain uses the latest findings in cognitive psychology, comparative biology, and neuroscience to look at the complex patterns of convergence and divergence in primate cortical organization and function. Several chapters examine the use of modern technologies to study primate brains, analyzing the potentials and the limitations of neuroimaging as well as genetic and computational approaches. These methods, which can be applied identically across different species of primates, help to highlight the paradox of nonlinear primate evolution--the fact that major changes in brain size and functional complexity resulted from small changes in the genome. Other chapters identify plausible analogs or homologs in nonhuman primates for such human cognitive functions as arithmetic, reading, theory of mind, and altruism; examine the role of parietofrontal circuits in the production and comprehension of actions; analyze the contributions of the prefrontal and cingulate cortices to cognitive control; and explore to what extent visual recognition and visual attention are related in humans and other primates. The Fyssen Foundation is dedicated to encouraging scientific inquiry into the cognitive mechanisms that underlie animal and human behavior and has long sponsored symposia on topics of central importance to the cognitive sciences.

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