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activations; 6.1 Introduction; 6.2 Dual-strategy hypothesis; 6.3 Pulse-step model; 6.4 Control of multi-muscle systems: muscle synergies; Self-test questions; Essential references and recommended further readings; Chapter 7 Control theory approaches; 7.1 The basic notions; 7.2 Servo-control and Merton's servo-hypothesis; 7.3 Optimal control; Self-test questions
Essential references and recommended further readings Chapter 8 Physical approaches; 8.1 Mass-spring models; 8.2 Threshold control; 8.3 The equilibrium-point hypothesis; 8.4 Control with referent configurations; Self-test questions; Essential references and recommended further readings; Chapter 9 Coordination; 9.1 Introduction; 9.2 Optimization; 9.3 Dynamical systems approach; 9.4 Synergy; 9.5 Perception-action interactions; 9.6 Perception-action coupling; Self-test questions; Essential references and recommended further readings; Chapter 10 Neurophysiological structures; 10.1 The spinal cord
10.2 Central pattern generators 10.3 The brain: A general overview; 10.4 Cortex of the large hemispheres; 10.5 Loops through the basal ganglia; 10.6 Loops involving the cerebellum; Self-test questions; Essential references and recommended further readings; Chapter 11 Exemplary behaviors; 11.1 Posture; 11.2 Locomotion; 11.3 Reaching; 11.4 Prehension; Self-test questions; Essential references and recommended further readings; Chapter 12 Effects of practice and adaptation; 12.1 Introduction; 12.2 Learning to be quick and accurate: Speed-accuracy and speed-difficulty trade-offs; 12.3 Learning motor synergies
12.4 Stages in motor learning

Sommario/riassunto

Motor control is a relatively young field of research exploring how the nervous system produces purposeful, coordinated movements in its interaction with the body and the environment through conscious and unconscious thought. Many books purporting to cover motor control have veered off course to examine biomechanics and physiology rather than actual control, leaving a gap in the literature. This book covers all the major perspectives in motor control, with a balanced approach. There are chapters explicitly dedicated to control theory, to dynamical systems, to biomechanics, to different beh
