

Contents

Preface	v
Credits	ix
Chapter 1 Behavioral and Neural Aspects of Motor Topology: Following Bernstein's Thread	1
<i>Apostolos P. Georgopoulos</i>	
Chapter 2 The Startle Reflex, Voluntary Movement, and the Reticulospinal Tract	13
<i>J.C. Rothwell and J. Valls-Solé</i>	
Chapter 3 Posturo-Kinetic Capacity and Postural Function in Voluntary Movements	25
<i>Simon Bouisset and Serge Le Bozec</i>	
Chapter 4 Neuronal Mechanisms Underlying Postural Control As Revealed in Simpler Systems	53
<i>G.N. Orlovsky, T.G. Deliagina, and Y.I. Arshavsky</i>	
Chapter 5 Development of Balance Control in Typically Developing Children and Children With Cerebral Palsy: Contributions and Constraints of Musculoskeletal Versus Nervous Subsystems	83
<i>Marjorie Hines Woollacott</i>	
Chapter 6 Impairment and Compensation of Reaching in Patients With Stroke and Cerebral Palsy	103
<i>Mindy F. Levin, Carmen M. Cirstea, Philippe Archambault, Florina Son, and Agnès Roby-Brami</i>	
Chapter 7 Reorganization of Motor Patterns During Motor Learning: A Specific Role of the Motor Cortex ..	123
<i>M. Ioffe, J. Massion, C. Schmitz, F. Viallet, and R. Gantcheva</i>	

— **Chapter 8 Fractional Power Damping Model of Joint Motion . . . 147**

*James C. Houk, Andrew H. Fagg,
and Andrew G. Barto*

**Chapter 9 The Multidimensional and Temporal Regulation of
Limb Mechanics by Spinal Circuits 179**

T.R. Nichols, R.J.H. Wilmink, and T.J. Burkholder

Chapter 10 Steadiness of Lengthening Contractions 195

*Evangelos A. Christou, Brian L. Tracy,
and Roger M. Enoka*

Chapter 11 On the Problem of Adequate Language in Biology . . . 209

Israel M. Gelfand and Mark L. Latash

Chapter 12 Bernstein Versus Pavlovianism: An Interpretation . . . 229

Onno G. Meijer

Index 251

Contributors 259

About the Editor 261