

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 |
| | <i>James C. Houk, Andrew H. Fagg, and Andrew G. Barto</i> | |
| Chapter 9 | The Multidimensional and Temporal Regulation of Limb Mechanics by Spinal Circuits | 179 |
| | <i>T.R. Nichols, R.J.H. Wilmink, and T.J. Burkholder</i> | |
| Chapter 10 | Steadiness of Lengthening Contractions | 195 |
| | <i>Evangelos A. Christou, Brian L. Tracy, and Roger M. Enoka</i> | |
| Chapter 11 | On the Problem of Adequate Language in Biology ... | 209 |
| | <i>Israel M. Gelfand and Mark L. Latash</i> | |
| Chapter 12 | Bernstein Versus Pavlovianism: An Interpretation ... | 229 |
| | <i>Onno G. Meijer</i> | |
| Index | | 251 |
| Contributors | | 259 |
| About the Editor | | 261 |