human motor control david a rosenbaum

Understanding Human Motor Control Through the Lens of David A. Rosenbaum

human motor control david a rosenbaum represents a fascinating intersection of psychology, neuroscience, and biomechanics that has been extensively explored by one of the leading figures in the field—David A. Rosenbaum. His pioneering work has significantly shaped our understanding of how humans plan, initiate, and execute movements, revealing intricate details about the cognitive and neural mechanisms underlying motor control. Whether you're a student, researcher, or simply curious about how our bodies manage complex actions seamlessly, diving into Rosenbaum's contributions offers invaluable insights.

Who Is David A. Rosenbaum and Why Does His Work Matter?

David A. Rosenbaum is a prominent psychologist and researcher known for his comprehensive studies on motor control and action planning. His research delves into how humans coordinate movements, from simple tasks like reaching for a cup to more elaborate actions such as playing a musical instrument or typing. Rosenbaum's work bridges the gap between theoretical models of motor control and practical observations, providing a framework to understand not just *what* movements occur but *how* and *why* they happen in the way they do.

His contributions have influenced areas spanning cognitive psychology, motor neuroscience, and even robotics, making his findings relevant beyond human physiology to fields interested in replicating or enhancing human movement.

The Fundamentals of Human Motor Control According to Rosenbaum

Motor control is the process by which humans use their brain and muscles to coordinate movement. Rosenbaum's research emphasizes the role of *action planning*—the mental preparation that precedes physical movement. This planning ensures movements are smooth, efficient, and goal-directed.

Action Planning and Motor Programming

One of Rosenbaum's notable theories involves the concept of motor programs, which are prestructured sets of commands that the brain generates to produce movement. Rather than controlling each muscle individually during an action, the brain plans the entire sequence beforehand. This idea helps explain how we perform rapid and complex movements without conscious thought for every step.

For example, when you decide to pick up a glass, your brain pre-plans the trajectory your hand will follow, the grip strength required, and the coordination of muscles involved. Rosenbaum's experiments often used reaction time measures and movement analysis to demonstrate that longer or more complex actions require more extensive planning.

Hierarchical Organization of Movements

Another critical insight from Rosenbaum's work is the hierarchical nature of motor control. Movements are not random but organized into layers, with high-level goals guiding the selection of sub-actions. This hierarchy allows flexibility and adaptability, enabling humans to modify actions on the fly.

Imagine writing a sentence: your brain plans the overall goal (compose a meaningful sentence), the choice of words, the motor execution of typing each letter, and the coordination of finger movements. Rosenbaum's research highlights how this layered structure is fundamental to efficient motor control.

Experimental Paradigms and Key Findings

Rosenbaum's studies often employed experimental paradigms that reveal the intricacies of motor planning and control. One such method involves measuring *reaction times* and *movement times* in tasks that require varying levels of complexity.

The End-State Comfort Effect

A particularly influential finding in Rosenbaum's research is the end-state comfort effect. This phenomenon describes how people tend to adopt initially uncomfortable hand positions if it means they will end in a comfortable and functional posture after completing the movement.

For instance, when grasping an upside-down glass to turn it right side up, individuals will often start with an awkward grip to ensure the final hand position is stable and comfortable. This behavior illustrates foresight and planning in motor control, showing that movement sequences are optimized not just for immediate ease but for the entire action's outcome.

Sequential Action and Movement Chunking

Humans often perform complex tasks by breaking them down into smaller, manageable units—a process known as chunking. Rosenbaum's research found that people group movements into chunks to improve efficiency and reduce cognitive load. This chunking is a crucial aspect of skill acquisition, helping explain how practice leads to smoother, faster, and more automatic movements.

Applications of Rosenbaum’s Human Motor Control Research

Understanding human motor control through Rosenbaum’s work has practical implications across various domains, including rehabilitation, sports science, and human-computer interaction.

Rehabilitation and Neuroplasticity

Insights into action planning and motor hierarchy guide therapeutic approaches for individuals recovering from neurological injuries like strokes or traumatic brain injuries. Therapists can design interventions that focus not only on muscle strength but also on retraining the brain’s ability to plan and sequence movements effectively.

Enhancing Athletic Performance

Athletes benefit from strategies based on motor control research, such as optimizing movement sequences and improving reaction times. By understanding how the brain organizes and executes movement, coaches can tailor training programs that enhance motor skills and prevent injuries.

Human-Computer Interaction and Robotics

Rosenbaum’s principles are also influential in designing user-friendly interfaces and robotic systems that mimic human-like movement. In robotics, programming machines to replicate human motor planning can lead to more fluid and adaptive behaviors, enhancing automation and assistive technologies.

Tips for Applying Motor Control Principles in Daily Life

You don’t have to be a scientist to benefit from understanding human motor control. Here are some practical tips inspired by Rosenbaum’s findings:

- **Practice Movements in Chunks:** When learning a new skill, break it down into smaller parts rather than trying to master everything at once.
- **Focus on End-State Comfort:** When performing tasks, think ahead about where your hands or body will end up, not just the immediate step.
- **Allow Time for Planning:** Give yourself a moment to mentally prepare before initiating complex movements, especially in sports or intricate tasks.

- **Use Repetition to Build Automaticity:** Repeated practice helps your brain develop efficient motor programs, making actions smoother and faster over time.

The Future of Research Inspired by David A. Rosenbaum

As neuroscience and technology advance, the foundation laid by Rosenbaum continues to inspire new research directions. With the rise of brain imaging techniques and machine learning, scientists are uncovering even more about how motor plans are formed and executed in the brain. This ongoing exploration promises to deepen our understanding of motor disorders and enhance human-machine symbiosis.

Moreover, Rosenbaum’s emphasis on cognitive aspects of movement challenges us to see motor control not simply as physical activity but as a complex interplay of thought, perception, and action—a perspective that enriches every facet of behavioral science.

Delving into human motor control through the extensive work of David A. Rosenbaum reveals a rich tapestry of how our brains orchestrate even the simplest acts. His research not only advances academic knowledge but also offers practical pathways to improve health, performance, and technology, making the study of motor control an endlessly intriguing journey.

Frequently Asked Questions

Who is David A. Rosenbaum in the field of human motor control?

David A. Rosenbaum is a prominent psychologist and researcher known for his influential work in human motor control, particularly in the areas of movement planning, coordination, and skilled action.

What are the key contributions of David A. Rosenbaum to human motor control?

David A. Rosenbaum has contributed significantly to our understanding of how humans plan and execute movements, including the development of theories on motor planning, the role of anticipation in movement, and the cognitive processes involved in motor control.

What is the significance of David A. Rosenbaum's book 'Human Motor Control'?

Rosenbaum's book 'Human Motor Control' is considered a foundational text in the field, providing

comprehensive insights into the mechanisms of motor planning, execution, and coordination, and it is widely used in academic courses and research.

How does David A. Rosenbaum explain the concept of motor planning in his research?

Rosenbaum emphasizes that motor planning involves anticipating future states and organizing movements in advance to achieve smooth and efficient action, highlighting the cognitive aspects that precede physical movement.

What experimental methods has David A. Rosenbaum used in studying human motor control?

Rosenbaum has utilized behavioral experiments, motion tracking, and reaction time measurements to investigate how people plan and execute movements, often focusing on response selection and motor sequencing.

How has David A. Rosenbaum's research influenced rehabilitation and motor learning?

His research has informed therapeutic approaches by improving understanding of how motor skills are acquired and controlled, aiding in the design of interventions for motor impairments and the development of motor learning strategies.

Are there any recent developments or studies by David A. Rosenbaum in human motor control?

Recent studies by Rosenbaum continue to explore the integration of cognitive and motor processes, including how decision-making and perception interact with motor planning, contributing to evolving models of human motor control.

Additional Resources

Human Motor Control David A Rosenbaum: A Critical Examination of His Contributions to Cognitive and Motor Psychology

human motor control david a rosenbaum stands as a pivotal reference point in the study of how humans plan, execute, and regulate motor actions. David A. Rosenbaum's extensive research has profoundly shaped contemporary understanding of motor control, integrating cognitive psychology with neuroscience and biomechanics. His work bridges the gap between theoretical constructs and empirical findings, offering nuanced insights into the mechanisms that govern voluntary movements, reaction times, and motor planning.

This article delves into the core aspects of Rosenbaum’s contributions to human motor control, analyzing his theoretical frameworks, experimental methodologies, and the broader implications for fields such as rehabilitation, robotics, and human-computer interaction. By contextualizing his research within the evolving landscape of motor control studies, we explore how his findings continue

to influence both academic inquiry and applied sciences.

David A. Rosenbaum and the Foundations of Human Motor Control

David A. Rosenbaum is widely recognized for his pioneering work on motor planning and the cognitive processes underlying movement execution. His research often addresses the question of how the brain organizes sequences of actions before physical movement occurs, emphasizing the anticipatory nature of motor control. Unlike models that focus solely on biomechanics or neural activation patterns, Rosenbaum's approach incorporates psychological principles, highlighting the role of intention, decision-making, and perceptual factors.

One of his notable contributions is the development of the "Planning and Control" framework, which distinguishes between the pre-planned aspects of movement and the real-time adjustments made during execution. This dual-process understanding challenged earlier notions that motor actions were predominantly reactive, instead positing that complex motor tasks involve extensive preparation at cognitive levels.

Key Experiments and Findings

Rosenbaum’s experimental paradigms often involve reaction time tasks, action sequencing, and movement trajectory analyses. For example, his studies on movement initiation times reveal how humans prepare motor sequences before movement onset, with reaction times increasing as the complexity or length of the planned sequence grows. This finding supports the idea that motor control is not a purely reflexive process but involves hierarchical planning.

Moreover, Rosenbaum’s work on the "End-State Comfort Effect" illustrates how individuals plan hand and arm postures to optimize comfort at the conclusion of a movement rather than at the start. This phenomenon underscores the anticipatory adjustments embedded in motor planning, reflecting an advanced level of cognitive control over biomechanics.

Theoretical Implications and Models Influenced by Rosenbaum’s Research

Rosenbaum’s insights have contributed significantly to the development of motor control theories that integrate cognitive and neural components. His research aligns with and enriches models such as the Internal Model framework, which posits that the brain generates predictive simulations of motor outcomes to guide actions.

Furthermore, Rosenbaum’s emphasis on hierarchical planning has encouraged the refinement of motor schemas and motor programs in psychological theory. By demonstrating that motor sequences involve structured, rule-based preparation, his work challenges purely stimulus-response models and supports more complex representations of action planning in the brain.

Applications in Neuroscience and Rehabilitation

The practical relevance of Rosenbaum's research extends into clinical and technological domains. Understanding the cognitive underpinnings of motor control aids in diagnosing and treating motor disorders, such as Parkinson's disease and stroke-related impairments. Therapies that target motor planning deficits can benefit from the frameworks Rosenbaum helped establish.

In addition, robotic prosthetics and human-computer interfaces leverage principles derived from his studies. Designing systems that anticipate user intentions and adapt to planned sequences can improve ergonomics and user experience, demonstrating the translational potential of his motor control theories.

Comparative Analysis: Rosenbaum's Work Versus Contemporary Researchers

When juxtaposed with contemporaries like Richard A. Schmidt and Mark L. Latash, Rosenbaum's approach stands out for its cognitive emphasis. While Schmidt's Schema Theory focuses on motor learning and variability, and Latash prioritizes biomechanical constraints and synergies, Rosenbaum highlights the anticipatory cognitive processes shaping movement sequences.

This integrative perspective makes his contributions particularly valuable for interdisciplinary research, combining psychology, neuroscience, and engineering. However, some critiques point out that Rosenbaum's models may underrepresent the role of sensory feedback during movement execution, an area extensively examined by other scholars.

Strengths and Limitations of Rosenbaum's Motor Control Framework

- **Strengths:**
    - Emphasis on cognitive planning enriches understanding beyond motor execution.
    - Empirical rigor through controlled reaction time and sequencing experiments.
    - Applicability across multiple disciplines, from psychology to robotics.
- **Limitations:**
    - Potential underestimation of online sensory feedback in motor adjustments.
    - Less focus on neurophysiological mechanisms compared to some neuroscientific models.

- Complexity of translating lab results to real-world motor tasks.

Emerging Directions Inspired by Rosenbaum’s Legacy

Recent advances in neuroimaging and computational modeling have opened new avenues to expand upon David A. Rosenbaum’s foundational work. For instance, integrating functional MRI data with his theories on motor planning promises a deeper understanding of the brain regions involved in sequence preparation. Similarly, artificial intelligence and machine learning techniques are beginning to simulate hierarchical motor planning, echoing Rosenbaum’s framework.

Furthermore, the exploration of motor control in virtual environments and augmented reality settings reflects an extension of his principles into cutting-edge technologies. These applications continue to test and refine the balance between pre-planned motor sequences and online corrections, a central theme in Rosenbaum’s research.

The enduring influence of human motor control david a rosenbaum is evident in the ongoing efforts to decode the complexity of human movement. His work not only clarifies how actions are structured cognitively but also inspires innovations that enhance human-machine interaction and rehabilitative practices. As the field advances, Rosenbaum’s contributions remain a cornerstone for researchers seeking to unravel the intricate dance between mind and motion.

Human Motor Control David A Rosenbaum

human motor control david a rosenbaum: Human Motor Control David A. Rosenbaum, 2014-06-28 Human Motor Control is a elementary introduction to the field of motor control, stressing psychological, physiological, and computational approaches. Human Motor Control cuts across all disciplines which are defined with respect to movement: physical education, dance, physical therapy, robotics, and so on. The book is organized around major activity areas. - A comprehensive presentation of the major problems and topics in human motor control - Incorporates applications of work that lie outside traditional sports or physical education teaching

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human motor control david a rosenbaum: *National Library of Medicine Current Catalog* National Library of Medicine (U.S.), 1992

human motor control david a rosenbaum: Free Will and Constraint Jamshid Farshidi, 2015-03-31 Free will is an essential problem in human knowledge that investigates the relationships between all creatures, including human beings, with each other, nature, and ecosystem. The immense impacts of free will on science, law, and ethics and, as a result, on everyday life of humans are undeniable. This is the reason behind almost two centuries of intense research by well-known researchers on this historic problem in the Western world. This book, based on a constructive modeling of the problem, provides its solution and analyzes its applications in science, law, and ethics.

human motor control david a rosenbaum: It's a Jungle in There David A. Rosenbaum, 2014-05 It's a Jungle in There proposes that the overarching theory of biology, Darwin's theory, should be applied to cognitive psychology. Taking this approach, David Rosenbaum suggests that the phenomena of cognitive psychology can be understood as emergent interactions among dumb neural elements competing and cooperating in a kind of inner jungle.

human motor control david a rosenbaum: Speech Timing Alice Turk, Stefanie Shattuck-Hufnagel, 2020 This book explores the nature of cognitive representations and processes in speech motor control, based primarily on speech timing evidence. It argues for an alternative to Articulatory Phonology, and lays out a framework that provides a more satisfactory account of what is known about motor timing in general and speech timing in particular.

human motor control david a rosenbaum: *Action, Mind, and Brain* David A. Rosenbaum, 2022-02-22 An engaging and accessible introduction to the psychology and neuroscience of physical action. This engaging and accessible book offers the first introductory text on the psychology and neuroscience of physical action. Written by a leading researcher in the field, it covers the interplay of action, mind, and brain, showing that many core concepts in philosophy, psychology, neuroscience, and technology grew out of questions about the control of everyday physical actions. It explains action not as a “one-way street from stimuli to response” but as a continual perception-action cycle. The informal writing style invites students to think through the evidence step by step, helping them develop general thinking stills as well as learn specific facts. Special emphasis is placed on the role of underrepresented groups. The book discusses the intellectual background of the field, from Plato to Kant, Dewey, and others; applications and methods; and the physical substrates of action—bones, tendons, ligaments, muscles, and nerves. It considers the control of actions in space; learning, and the roles of nature and nurture; feedback; feedforward, or anticipated feedback; and degrees of freedom—the multiple ways of getting things done and three methods for narrowing the alternatives. The book is generously illustrated, including many images of thinkers who contributed to the field.

human motor control david a rosenbaum: *Music Performers' Lived Experiences* Mine Doğantan-Dack, 2025-07-30 The two volumes on Music Performers’ Lived Experiences seeks to widen this research area through close investigations of a variety of rich, complex and nuanced experiences classical music performers have qua performers, as they interact with musical scores, instruments, performance traditions, other musicking individuals, wider artistic and cultural discourses, norms and beliefs. The two volumes aim to “humanise” music performers and contribute towards shaping a more performer-centred discipline of Music Performance Studies. The first volume, Music Performers’ Lived Experiences: Theory, Method, Interpretation, brings together internationally renowned scholars, who capture and scrutinise, through a variety of methods, a wide range of experiences performers have—as well as the personally meaningful lived experience narratives performers construct—presenting vivid portraits of music performers as artists situated in unique socio-cultural, historical, embodied and discursive contexts. The topics discussed include the construction of the idea of “the composer” from lived experiences of performing, manifestations of wisdom in the ways performers make sense of their experiences, joys of sight-reading, performer agency, lived experience as the basis of performance analysis, emotional labour of working with

controversial repertoire, performance anxiety dreams of music performers, experience of working across musical genres, the nature of intersubjective experiences in music-making, absorption, and subjective bodily sensations in performance. Readers will come away from the book with fresh insights about and an enhanced understanding of the infinitely rich lifeworld of music performers.

human motor control david a rosenbaum: *The Primacy of Movement* Maxine Sheets-Johnstone, 2011-07-06 This expanded second edition carries forward the initial insights into the biological and existential significances of animation by taking contemporary research findings in cognitive science and philosophy and in neuroscience into critical and constructive account. It first takes affectivity as its focal point, elucidating it within both an enactive and qualitative affective-kinetic dynamic. It follows through with a thoroughgoing interdisciplinary inquiry into movement from three perspectives: mind, brain, and the conceptually reciprocal realities of receptivity and responsivity as set forth in phenomenology and evolutionary biology, respectively. It ends with a substantive afterword on kinesthesia, pointing up the incontrovertible significance of the faculty to cognition and affectivity. Series A

human motor control david a rosenbaum: *Scientific and Clinical Literature for the Decade of the Brain* Tony Stankus, 1993 Essays introduce the nine annotated bibliographies of literature in the neurosciences deemed to be important for researchers in the 1990s. The topics include neuroanatomy, psychobiology, sensory perception, brain imaging, psychopharmacology, and alcohol. Also published as Science and Technology Libraries, v.13, nos.3/4, 1993. Annotation copyright by Book News, Inc., Portland, OR

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human motor control david a rosenbaum: Optimizing Pianism Cameron Roberts, 2025-03-04 Drawing on his expertise as a medical professional and active pianist, Cameron Roberts provides an understanding of how virtuosic piano playing works from an evidence-based, scientific perspective. Using accessible language, this wealth of information will help readers steer away from uncertainty, suboptimal performance, and injury.

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human motor control david a rosenbaum: Handbook of Embodied Cognition and Sport Psychology Massimiliano L. Cappuccio, 2019-01-01 The first systematic collaboration between

cognitive scientists and sports psychologists considers the mind–body relationship from the perspective of athletic skill and sports practice. This landmark work is the first systematic collaboration between cognitive scientists and sports psychologists that considers the mind–body relationship from the perspective of athletic skill and sports practice. With twenty-six chapters by leading researchers, the book connects and integrates findings from fields that range from philosophy of mind to sociology of sports. The chapters show not only that sports can tell scientists how the human mind works but also that the scientific study of the human mind can help athletes succeed. Sports psychology research has always focused on the themes, notions, and models of embodied cognition; embodied cognition, in turn, has found striking confirmation of its theoretical claims in the psychological accounts of sports performance and athletic skill. Athletic skill is a legitimate form of intelligence, involving cognitive faculties no less sophisticated and complex than those required by mathematical problem solving. After presenting the key concepts necessary for applying embodied cognition to sports psychology, the book discusses skill disruption (the tendency to “choke” under pressure); sensorimotor skill acquisition and how training correlates to the development of cognitive faculties; the intersubjective and social dimension of sports skills, seen in team sports; sports practice in cultural and societal contexts; the notion of “affordance” and its significance for ecological psychology and embodied cognition theory; and the mind's predictive capabilities, which enable anticipation, creativity, improvisation, and imagination in sports performance. Contributors Ana Maria Abreu, Kenneth Aggerholm, Salvatore Maria Aglioti, Jesús Ilundáin-Agurruza, Duarte Araújo, Jürgen Beckmann, Kath Bicknell, Geoffrey P. Bingham, Jens E. Birch, Gunnar Breivik, Noel E. Brick, Massimiliano L. Cappuccio, Thomas H. Carr, Alberto Cei, Anthony Chemero, Wayne Christensen, Lincoln J. Colling, Cassie Comley, Keith Davids, Matt Dicks, Caren Diehl, Karl Erickson, Anna Esposito, Pedro Tiago Esteves, Mirko Farina, Giolo Fele, Denis Francesconi, Shaun Gallagher, Gowrishankar Ganesh, Raúl Sánchez-García, Rob Gray, Denise M. Hill, Daniel D. Hutto, Tsuyoshi Ikegami, Geir Jordet, Adam Kiefer, Michael Kirchhoff, Kevin Krein, Kenneth Liberman, Tadhg E. MacIntyre, Nelson Mauro Maldonato, David L. Mann, Richard S. W. Masters, Patrick McGivern, Doris McIlwain, Michele Merritt, Christopher Mesagno, Vegard Fusche Moe, Barbara Gail Montero, Aidan P. Moran, David Moreau, Hiroki Nakamoto, Alberto Oliverio, David Papineau, Gert-Jan Pepping, Miriam Reiner, Ian Renshaw, Michael A. Riley, Zuzanna Rucinska, Lawrence Shapiro, Paula Silva, Shannon Spaulding, John Sutton, Phillip D. Tomporowski, John Toner, Andrew D. Wilson, Audrey Yap, Qin Zhu, Christopher Madan

human motor control david a rosenbaum: New Digital Musical Instruments Eduardo Reck Miranda, Marcelo M. Wanderley, 2006-01-01 xxii + 286 pp.Includes a Foreword by Ross Kirk

human motor control david a rosenbaum: Motor Control and Learning Markus Latash, Francis Lestienne, 2006-05-31 The purpose of the current volume is two-fold. First, The second chapter is co-authored by Rosenbaum, it presents a series of review papers re?ecting the re- Cohen, Meulenbroek, and Vaughan. The authors - cent progress in the area of neural control of posture dress in this chapter another central issue of motor and movement (Parts I and II). Second, it focuses on control,thatofcreatingmotorplans.Inlinewitht- issues of changes in motor patterns and neurological orizing by David Rosenbaum and his colleagues, this structures involved in their production with learning, chapter develops the idea of end-state comfort as an development, and aging (Parts III and IV). organizing criterion for the formation motor plans. The chapters in this volume were written by speak- The chapter also highlights the role of mental rep- ers at the Fourth meeting “Progress in Motor Con- sentation in motor control. trol” that took place in Caen (France) in 2003. As Chapter 3 focuses on issues of postural control.

human motor control david a rosenbaum: MATLAB for Behavioral Scientists David A. Rosenbaum, Jonathan Vaughan, Brad Wyble, 2014-07-17 Written specifically for those with no prior programming experience and minimal quantitative training, this accessible text walks behavioral science students and researchers through the process of programming using MATLAB. The book explores examples, terms, and programming needs relevant to those in the behavioral sciences and helps readers perform virtually any computational function in solving their research problems.

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human motor control david a rosenbaum: *Cognitive Control of Action* David A. Rosenbaum, 2024-01-23 In the World Library of Psychologists series, international experts present career-long collections of what they judge to be their finest pieces—extracts from books, key articles, salient research findings, and their major practical theoretical contributions. In this volume, David A. Rosenbaum reflects on his distinguished career as an eminent scholar in the field of human perception and performance. Offering a unique perspective on the cognitive psychology of physical action control, the book charts Rosenbaum's development as one of the pioneers of the field. Featuring a newly written introduction in which the author offers a unique insight into his initial work on the movement precuing technique, along with coverage of other phenomena and models related to the translation of mental life into physical behavior, the book is essential reading for students and researchers interested in human perception, motor control, and embodiment.

human motor control david a rosenbaum: Adapting War Horse Toby Malone, Christopher J. Jackman, 2016-05-09 This book analyses the success and adaptation of Michael Morpurgo's novel War Horse to stage, radio, live events, and feature film, in different cultures, on tours, and in translation. In under a decade, War Horse has gone from obscure children's novel to arguably one of the world's most recognisable theatrical brands, thanks to innovative puppet designs from South Africa's Handspring Puppet Company in an acclaimed stage production from the National Theatre of Great Britain. With emphasis on embodied spectatorship, collaborative meaning-making, and imaginative 'play,' this book generates fresh insights into the enduring popularity of the franchise's eponymous protagonist, Joey, offering the most in-depth study of War Horse to date.

human motor control david a rosenbaum: *Timing of Behavior* David A. Rosenbaum, Charles E. Collyer, 1998 This volume presents cutting-edge research on the production, perception, and memory of timed events. Athletes and musicians demonstrate the levels to which humans can ascend in the timing of behavior. But even common actions, such as opening a door or bringing a cup to

one's lips, reveal how we organize our behavior temporally. When there is damage to the nervous system and the ability to time behavior breaks down, we become aware of how many things must go right for timing not to go terribly wrong. In recent years, there has been a considerable growth of interest among cognitive and brain scientists in the timing aspects of human behavior. This volume presents cutting-edge research on the production, perception, and memory of timed events. Empirical chapters discuss a variety of tasks ranging from locomotion to finger-tapping. Theoretical chapters provide quantitative models for topics as diverse as eyeblink conditioning and posture during walking. Other chapters discuss the neuroanatomical bases of timing behavior. Contributors: Lorraine G. Allan, Eric L. Amazeen, Polemnia G. Amazeen, Heather Jane Barnes, Steven Boker, Darlene H. Brunzell, June-Seek Choi, Russell M. Church, Charles E. Collyer, Christopher Connolly, Frederick J. Diedrich, John Gibbon, Roderic Grupen, Kathleen Y. Haaland, Deborah L. Harrington, Kjeldy Haugsjaa, Kenneth G. Holt, John J. Jeka, Bruce A. Kay, Michael Kubovy, Tiffany Mattson, Warren Meck, John W. Moore, Trevor Penney, Bruno H. Repp, David A. Rosenbaum, Kamal Souccar, Michael T. Turvey, Jonathan Vaughan, William H. Warren, Jr.

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