

# Table of Contents

## Part I: Introduction

1: Introduction: 4E Cognition: Historical Roots, Key Concepts, and Central Issues, Albert Newen, Shaun Gallagher, and Leon de Bruin

## Part II: What is Cognition?

2: Extended Cognition, Julian Kiverstein

3: Ecological-Enactive Cognition as Engaging with a Field of Relevant Affordances: The Skilled Intentionality Framework (SIF), Erik Rietveld, Damiaan Denys, And Maarten Van Westen

4: The Enactive Conception of Life, Ezequiel Di Paolo

5: Going Radical, Daniel D. Hutto and Erik Myin

6: Critical Note: So, What Again is 4E Cognition?, Ken Aizawa

## Part III: Modelling and Experimentation

7: The Predictive Processing Hypothesis, Jakob Hohwy

8: Interacting in the Open: Where Dynamical Systems Become Extended and Embodied, Maurice Lamb and Anthony Chemero

9: Searching for the Conditions of Genuine Intersubjectivity: From Agent-based Models to Perceptual Crossing Experiments, Tom Froese

10: Cognitive Integration: How Culture Transforms Us and Extends our Cognitive Capabilities, Richard Menary

11: Critical Note: Cognitive Systems and the Dynamics of Representing-in-the-world, Tobias Schlicht

## Part IV: Cognition, Action, and Perception

12: The Body in Action: Predictive Processing and the Embodiment Thesis, Michael D. Kirchhoff

13: Joint Action and Ecognition, Deborah Tollefsen and Rick Dale

14: Perception, Exploration, and the Primacy of Touch, Matthew Ratcliffe

15: Direct Social Perception, Joel Krueger

16: Critical Note: Bodily Experience, Action and Perception from the 4e Perspective, Sven Walter

## Part V: Brain-Body-Environment Coupling and Its Perception

17: Disclosing the World: Intentionality and 4e Cognition, Mark Rowlands

18: Building a Stronger Concept of Embodiment, Shaun Gallagher

19: Motor Intentionality, Elisabeth Pacherie

20: The Extended Body Hypothesis: Referred Sensations from Tools to Peripersonal Space, Frédérique De Vignemont

21: Critical Note: Brain-body-environment Couplings: What do they Teach us about Cognition?, Arne M. Weber and Gottfried Vosgerau

## Part VI: Social Cognition

22: Embodied Resonance, Vittorio Gallese and Corrado Sinigaglia

23: Why Engagement? A Second Person Take on Social Cognition, Vasudevi Reddy

24: The Intersubjective Turn, Hanne De Jaegher

25: The Person Model Theory and the Question of Situatedness of Social Understanding, Albert Newen

26: False Belief Understanding, 4E Cognition and the Predictive Processing Paradigm, Leon De Bruin

27: Critical Note: How Revisionary are 4E accounts of Social Cognition?, Mitchell Herschbach

## Part VII: Emotion

28: Thinking and Feeling: A Social-developmental Perspective, Peter Hobson

29: Beyond Mirroring: 4E Perspectives on Empathy, Dan Zahavi and John Michael

30: Embodiment of Emotion and its Situated Nature, Evan W. Carr, Anne Kever and Piotr Winkielman

31: Enacting Affectivity, Giovanna Colombetti

32: Critical Note: 3Es are Sufficient, but Don 't Forget the D - A Critical Note on Situated Affectivity, Achim Stephan

## Part VIII: Language And Learning

33: The Embodiment of Language, Mark Johnson

34: The Embodiment of Concepts: Theoretical Perspectives and the Role of Predictive Processing, Michiel Van Elk and Harold Bekkering

35: Origins and Complexities of Infant Communication and Social Cognition, Ulf Liszkowski

36: Developing an Understanding of Normativity, Marco F. H. Schmidt and Hannes Rakoczy

37: Critical Note: Language and Learning from the 4e Perspective, Hans-Johann Glock

## Part IX: Evolution and Culture

38: The Evolution of Cognition: A 4e Perspective, Louise Barrett

39: Mindshaping, Tadeusz W. Zawidzki

40: Bringing Things to Mind: 4Es and Material Engagement, Lambros Malafouris

41: Culture and the Extended Phenotype: Cognition and Material Culture in Deep Time, Kim Sterelny

42: Critical Note: Evolution of Human Cognition, Andreas Roepstorff and Tobias Starzak

## Part X: Applications

43: Communication as Fundamental Paradigm for Psychopathology, Kai Vogeley

44: Scaffolding Intuitive Rationality, Cameron Buckner

45: Robots as Powerful Allies for the Study of Embodied Cognition from the Bottom Up, Matej Hoffmann and Rolf Pfeifer

46: Interpersonal Judgments, Embodied Reasoning and Juridical Legitimacy, Somogy Varga

47: Embodied Cognition and the Humanities, Amy Cook

48: Embodied Aesthetics, Barbara G. Montero