The Spontaneous Brain

From the Mind-Body to the World-Brain Problem

Georg Northoff

The MIT Press Cambridge, Massachusetts London, England

Contents

Preface	vii	
Introduction		хi

- I Models of Brain 1
- Beyond the Passive/Active Dichotomy: A Spectrum Model of the Brain's Neural Activities 3
- 2 Relation between Spontaneous and Stimulus-Induced Activity: Interaction Model of Brain 27
- 3 Is Our Brain an Open or Closed System? Prediction Model of Brain and World-Brain Relation 55
- II Models of Consciousness 77
- 4 Spectrum Model of Brain and Consciousness 79
- 5 Interaction Model of Brain and Consciousness 105
- 6 Prediction Model of Brain and Consciousness 127
- Spatiotemporal Model of Consciousness I: Spatiotemporal
 Specificity and Neuronal-Phenomenal Correspondence 151
- 8 Spatiotemporal Model of Consciousness II: Spatiotemporal Alignment—Neuro-ecological Continuum and World-Brain Relation 195
- III World-Brain Problem 237
- 9 Ontology I: From Brain to World-Brain Relation 239
- 10 Ontology II: From World-Brain Relation to Consciousness 269
- 11 Ontology III: From the World to Consciousness 315

- IV Copernican Revolution 349
- 12 Copernican Revolution in Physics and Cosmology: Vantage Point from beyond Earth 351
- 13 Pre-Copernican Stance in Neuroscience and Philosophy: Vantage Point from within Mind or Brain 377
- 14 Copernican Revolution in Neuroscience and Philosophy: Vantage Point from beyond Brain 403
- Conclusion: Copernican Revolution—Is the Brain's Spontaneous Activity an Empirical, Epistemic, and Ontological Game Changer in Neuroscience and Philosophy? 435

Glossary 439 References 455 Index 501