

Contents

The Twenty-First-Century Singularity in the Big History Perspective: An Overview	1
Alexander Panov, David J. LePoire and Andrey V. Korotayev	
The Twenty-First-Century Singularity in the Big History Perspective—A Re-analysis	19
Andrey V. Korotayev	
Exploring the Singularity Concept Within Big History	77
David J. LePoire	
Historical Mega-Trends	
Forecasting the Growth of Complexity and Change—An Update	101
Theodore Modis	
Hyperbolic Evolution from Biosphere to Technosphere	105
Alexey Fomin	
Big History and Singularity as Metaphors, Hypotheses, and Predictions	119
Sergey Tsirel	
Big History Trends in Information Processes	145
Ken Solis and David J. LePoire	
Plurality: The End of Singularity?	163
Alessio Plebe and Pietro Perconti	
Energy Flow Trends in Big History	185
David J. LePoire and Mathew Chandrankunnel	
The Deductive Approach to Big History's Singularity	201
Sergey Grinchenko and Yulia L. Shchapova	

Models

- Near-Term Indications and Models of a Singularity** 213
David J. LePoire and Tessaleno Devezas

- Is Singularity a Scientific Concept or the Construct of Metaphysical
Historicism? Implications for Big History** 225
Graeme Donald Snooks

Future Implications

- Threshold 9: Big History as a Roadmap for the Future** 267
Elise Bohan

- Dynamics of Technological Growth Rate and the Forthcoming
Singularity** 287
Leonid Grinin, Anton Grinin and Andrey V. Korotayev

- The Twenty-First Century's "Mysterious Singularity" in the Light
of the Big History** 345
Akop Nazaretyan

- Global Brain: Foundations of a Distributed Singularity** 363
Cadell Last

- The Cybernetic Revolution and the Future of Technologies** 377
Leonid Grinin and Anton Grinin

- Complexity in the Future: Far-from-Equilibrium Systems
and Strategic Foresight** 397
David Baker

- Future Technological Achievements as a Challenge
for Post-singularity Human Society** 419
Sergey Tsirel

- Singularity of Evolution and Post-singular Development
in the Big History Perspective** 439
Alexander Panov

Epistemology and Ontology

- Big History by Mathematics: Information, Energy,
and the Singularity** 469
Claudio Maccone

- The Twenty-First-Century Singularity: The Role of Perspective
and Perception** 489
Marc Widdowson

About the Singularity in Biological and Social Evolution	517
Sergey Malkov	
The Transition to Global Society as a Singularity of Social Evolution	535
Sergey Dobrolyubov	
Evolution, the ‘Mechanism’ of Big History, Predicts the Near Singularity	559
John S. Torday	
How Singular Is the Twenty-First-Century Singularity?	571
Andrey V. Korotayev	
Conclusion	
Conclusion	599
David J. LePoire and Andrey V. Korotayev	