
World-Systems Evolution and Global Futures

Series Editors

Christopher Chase-Dunn, University of California, Riverside, USA

Barry K. Gills, University of Helsinki, Finland

Leonid E. Grinin, National Research University, Higher School of Economics,
Moscow, Russia

Andrey V. Korotayev, National Research University, Higher School of Economics,
Moscow, Russia

This series seeks to promote understanding of large-scale and long-term processes of social change, in particular the many facets and implications of globalization. It critically explores the factors that affect the historical formation and current evolution of social systems, on both the regional and global level. Processes and factors that are examined include economies, technologies, geopolitics, institutions, conflicts, demographic trends, climate change, global culture, social movements, global inequalities, etc.

Building on world-systems analysis, the series addresses topics such as globalization from historical and comparative perspectives, trends in global inequalities, core-periphery relations and the rise and fall of hegemonic core states, transnational institutions, and the long-term energy transition. This ambitious interdisciplinary and international series presents cutting-edge research by social scientists who study whole human systems and is relevant for all readers interested in systems approaches to the emerging world society, especially historians, political scientists, economists, sociologists, geographers and anthropologists.

More information about this series at <http://www.springer.com/series/15714>

Julia Zinkina • David Christian •
Leonid Grinin • Ilya Ilyin • Alexey Andreev •
Ivan Aleshkovski • Sergey Shulgin •
Andrey Korotayev

A Big History of Globalization

The Emergence of a Global
World System

 Springer

Julia Zinkina
Russian Presidential Academy of National
Economy and Public Administration
Moscow, Russia

David Christian
Macquarie University
Sydney, NSW, Australia

Leonid Grinin
Higher School of Economics
National Research University
Moscow, Russia

Ilya Ilyin
Moscow State University
Moscow, Russia

Alexey Andreev
Moscow State University
Moscow, Russia

Ivan Aleshkovski
Faculty of Global Studies
Moscow State University
Moscow, Russia

Sergey Shulgin
Russian Presidential Academy of National
Economy and Public Administration
Moscow, Russia

Andrey Korotayev
Higher School of Economics
National Research University
Moscow, Russia

ISSN 2522-0985

ISSN 2522-0993 (electronic)

World-Systems Evolution and Global Futures

ISBN 978-3-030-05706-0

ISBN 978-3-030-05707-7 (eBook)

<https://doi.org/10.1007/978-3-030-05707-7>

Library of Congress Control Number: 2018966551

© Springer Nature Switzerland AG 2019

This work is subject to copyright. All rights are reserved by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, express or implied, with respect to the material contained herein or for any errors or omissions that may have been made. The publisher remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.

This Springer imprint is published by the registered company Springer Nature Switzerland AG
The registered company address is: Gewerbestrasse 11, 6330 Cham, Switzerland

Foreword

The Big History of Globalization is a large and important book. It is rigorously argued and superbly written and will deepen and enrich discussions about the immensely important theme of globalization. It advances these discussions and debates because of its thoroughness and clarity, but also in two other ways. First, its mainly Russian authors bring together insights on globalization from Russian-language and Western scholarly traditions, linking ideas and approaches that have been disconnected for far too long. Second, it places the notion of globalization within a much wider scholarly context than usual.

This book is not just *about* global connectivity; it is itself a wonderful example of that connectivity, because it connects the scholarly worlds of the Anglophone and European “West” with the Russophone scholarly worlds of the former Soviet Union. The intellectual, linguistic, cultural, and ideological barriers that have limited discussion between these rich and often very different scholarly and scientific worlds are lamentable. Bringing these worlds together produces immense intellectual synergies, as this volume shows. Western scholars have much to learn from Russian scholarly traditions because, as a rule, Russian-zone scholars have paid more attention to Western debates on such issues than Western scholars have to Russian debates. In this volume, the reader will find discussions that link the scholarly traditions of these worlds and, by doing so, generate new insights into the nature of globalization.

The Big History of Globalization also expands our understanding of globalization by placing its theme within the context of deep time. This means discussing globalization holistically, which allows the authors to illuminate the subject with insights from many different disciplines, complexity theory, catastrophe theory, and network theory, to the many insights from different traditions of “world history,” “global history,” and “world-systems” thinking. As Chap. 1 explains, placing the notion of globalization within this broad historical and intellectual framework raises fundamental questions about the connectivities that are at the heart of globalization, and about how the dense and Earth-wide connectivity of today’s world can be compared with earlier forms of connectivity in human history, and in the biosphere over several billion years, and even within the whole cosmos. Why did the emergence of networks of inter-connection between once isolated entities matter? How did increasing connectivity give rise to emergent properties within human societies,

and what is suggested about these properties by comparing them with emergences that occurred in the biosphere and the geosphere, or within molecular chemistry and quantum physics? This book proposes that there have been waves of globalization and deglobalization in human history that are similar in some respects with cycles of integration and disintegration that have occurred in physical and biological evolution. If this is so, can these oscillations be measured? Can rigorous models of their causes be developed and tested that will help us comprehend their impacts and causes? How distinctive are the astonishing forms of connectivity that are emerging in the era of the Internet and the Anthropocene? Are we now entering another phase of deglobalization?

Discussing globalization within such a vast conceptual framework is exhilarating and illuminating. The Introduction depicts in more detail how the subject of globalization can be set within a deep time framework and why it is important to do so.

The book's broad interdisciplinary framework and its linking of Western and Russian-language scholarship on globalization mean that scholars everywhere will find this volume illuminating and thought-provoking. They will also find a rich, but compact, summary of the scholarly studies of globalization both in the West and in the Russian zone over many decades. Its accounts of the history of globalization as a concept and of different possible definitions of globalization are deft, precise, and clear. There are also learned discussions of debates about the nature and significance of globalization and original contributions to the challenge of *measuring* globalization in different eras and contexts. Readers new to the field will find introductions to most of the important thinkers who have contributed to these debates. And, because this book explores the deep roots of the idea of globalization, it will help readers understand globalization as one expression of the mechanisms of networking that are present in all complex entities and explored within many different disciplines from physics to biology to environmental studies to economics and to studies of today's emerging global society.

The book begins with precise examination of what the word "globalization" has meant in different contexts and within different traditions and how it has been and might be measured. Its definitions are broad and varied, and they touch on many different types of links among human societies: economic, cultural, technological, ecological, demographic, political, and geopolitical. The authors date the earliest forms of globalization in human history to the first era of urbanization, to Gordon Childe's urban revolution. That is a periodization that some other scholars have questioned. Some archaeologists contend that important long-distance exchanges were already linking state-less and city-less hunter-gatherer societies to one another during the Paleolithic and Mesolithic Eras. Others contend that the technologies of communication and transportation of foraging societies constrained the systemic consequences of interaction to produce rather small regional human interaction systems, but that these were still comparable in important ways with the spatially larger systems that emerged after transportation and communications technologies facilitated more long-distance interaction. *The Big History of Globalization* traces the spread, expansion, and complexification of many kinds of networks over several thousand years, until the major turning point of the sixteenth century CE when, for the

first time, there emerged truly Earth-wide links among human societies. The world-historical significance of the global networks of exchange that emerged during the sixteenth century has been understood by historians for many centuries and was central to Marxist accounts of the history of capitalism, beginning with some famous passages in the *Communist Manifesto*. The book then traces the growth of international and transnational networks in recent centuries and their close links to modernization and industrialization. This volume takes the story of globalization up to the beginning of the twentieth century. Since then, the Anthropocene Epoch has seen an explosion of globalization so rapid and so potent that it will deserve an entire second volume.

This study is included in a series on World-Systems Evolution and Global Futures that is being published by Springer Verlag. Other volumes will present contending approaches to conceptualizing and periodizing globalization and ways of specifying the systemic spatial boundaries of whole world-systems. The scientific study of long-term, large-scale social change and sociocultural evolution will benefit from the clear exposition of contending approaches of the sort that is presented in *The Big History of Globalization*.

The authors are to be congratulated for producing the most thorough general account of the history of globalization that is currently available and for setting their discussion within a wide intellectual and historical context. Their book will do much to disperse the fog of globalization and to help us comprehend what is happening and what yet may happen in the twenty-first century.

University of California, Riverside
Riverside, CA, USA

Christopher Chase-Dunn

Acknowledgements

This research has been supported by Russian Science Foundation project No 15-18-30063 “Historical globalistics: historical evolution, current state and forecast development scenarios for global networks of flows, interactions and communication, global processes, and planetary institutions, and the role of Russia and BRICS therein.”

Contents

1	Introduction: Big History Context	1
	References	7
2	Introduction: Globalization Context	9
2.1	How Old Is the Global World?	10
2.2	How Old Is Globalization?	13
2.3	A Proposed Periodization of Globalization	15
	References	21
3	Archaic Globalization: The Birth of the World-System	25
3.1	The Archaic History of Globalization	25
3.1.1	Pre-history of Globalization, Eighth to Fourth Millennia BCE	25
3.1.2	The Urban Revolution, 3500–2500 BCE	27
3.1.3	2500–1000 BCE: A Period of Typostasis	28
3.1.4	The Axial Age and the Start of the Epoch of Empires, First Millennium BCE	31
3.1.5	The “Lost Millennium,” 150–1000 CE	33
3.2	The Early Stages of Globalization: Networks of Diffusion and Exchange of Domesticates, Technologies, and Luxury Goods . . .	35
3.2.1	Diffusion of Domesticates	35
3.2.2	Diffusion of Technologies	38
3.2.3	Long-Distance Trade: Diffusion of Tools and Luxury Goods	40
3.2.4	Silk Roads: The “Circulatory System” of Ancient Globalization	41
3.2.5	The Appearance and Diffusion of World Religions	43
3.3	Conclusion	44
	References	45
4	Global Dynamics 1–1800 CE: Trends and Cycles	51
4.1	Trend Component of Global Dynamics, 1–1800 CE	53
4.1.1	Relative Indicators of Global Dynamics	54
4.1.2	Absolute Indicators of the Global Dynamics	55

4.1.3	Trends in the Pre-modern Era	58
4.2	Cyclic Component of Global Dynamics in 1–1800 CE	61
4.2.1	Structure of Sociodemographic Cycles	61
4.2.2	Sociodemographic Dynamics in the History of Certain Countries	63
4.2.3	Synchronization of Sociodemographic Cycles	66
4.3	Conclusion	67
	References	68
5	Proto-modern and Early Modern Globalization: How Was The Global World Born?	71
5.1	Where Did the Global World Stem from?	72
5.1.1	“Proto-modern” Globalization: The Last Peak of Early Globalization	72
5.1.2	Reasons for World-System Disintegration in the Fourteenth Century	76
5.2	World Evolution and Formation of the Global Web	77
5.2.1	Afro-Eurasian Network Expansion: Formation of the Global World	78
5.2.2	Consequences of Integration: Globalization of Infectious Diseases	79
5.2.3	Consequences of Integration: Globalization of World Staple Foods	80
5.2.4	Consequences of Integration: The “Global Silver Network” in the World Economy	83
5.3	Conclusion	84
	References	85
6	Early Modern Globalization and World Dynamics: Global Growth, Global Crisis, and Global Divergence	87
6.1	The Sixteenth Century: General Growth Epoch	88
6.2	The Global Crisis of the Seventeenth Century	92
6.2.1	The Scale and Factors of the Global Crisis	93
6.2.2	The Global Crisis in the Context of Political- Demographic Cycles. Global Synchronization of Crisis Phases	94
6.3	The Eighteenth Century’s Great Divergence: Global North and Global South	96
6.4	Conclusion	100
	References	101
7	The Early Modern Period: Emerging Global Processes and Institutions	105
7.1	The Second Information Revolution and Rise of Literacy	105
7.1.1	Printing	106
7.1.2	Rising Literacy Levels	108

7.1.3	Mass Printing of Periodicals	109
7.2	Military Revolution	110
7.2.1	The Main Stages of the Military Revolution	111
7.2.2	The Military Revolution and the Structure of the Global World	112
7.3	Formation of the Modern State in Europe	113
7.3.1	The History of Modern Taxation	114
7.3.2	Development of Modern Bureaucracy	115
7.3.3	Modernization of Law: Codification of Law and Diffusion of Legal Systems	118
7.4	Conclusion	119
	References	120
8	Modern Globalization: Global Technological and Economic Transformations in the Late Eighteenth and Nineteenth Centuries . . .	123
8.1	The Agricultural Revolution and Escape from the Malthusian Trap	125
8.2	The Industrial Revolution: The First Modern Technological Paradigm	129
8.2.1	The Industrial Revolution and Urbanization Transition . . .	130
8.2.2	The First Technological Paradigm	131
8.2.3	Urbanization Transition	132
8.3	The Second Modern Technological Paradigm	134
8.3.1	The Main Characteristics of the Second Technological Paradigm	134
8.3.2	Railways	134
8.3.3	Steamships	136
8.3.4	The Telegraph	137
8.4	Economic Cycles and Crises of the Nineteenth Century	139
8.4.1	Economic Cycles of the Nineteenth Century	139
8.4.2	Economic Crises of the Nineteenth Century	141
8.5	Demographic Transition and Demographic Explosion in the World-System Core	142
8.5.1	Early Mortality Transition. Decline of Catastrophic Mortality	143
8.5.2	Ongoing Mortality Transition. The Decline of “Regular” Mortality	144
8.5.3	The Second Phase of Demographic Transition. Fertility Transition	146
8.5.4	Explosive Population Growth in the First World	147
8.6	Conclusion	148
	References	149

9	Global Sociopolitical Transformations of the Nineteenth Century	153
9.1	Statehood Development	154
9.2	Revolutions and Social Movements	155
9.2.1	Revolutionary Waves in the Nineteenth Century	156
9.3	Constitutionalism and Political Parties	160
9.3.1	Constitutionalism	160
9.3.2	Political Parties	161
9.4	Struggle for Enfranchisement	164
9.5	The Abolition of Slavery and Other Hard Forms of Personal Dependence	167
9.6	The Emergence of Social States in Europe	171
9.6.1	The Birth of Social Security Systems in Europe in the Nineteenth Century	171
9.6.2	The German Experience	172
9.6.3	The British Experience	173
9.6.4	The Emergence of Social Security in Global History	175
9.7	Conclusion	178
	References	178
10	Global Sociocultural Transformations of the Nineteenth Century	183
10.1	Mass Primary Education in the Nineteenth Century	183
10.1.1	The Evolution of Compulsory Primary Education in Western Europe	184
10.1.2	The Spread of Mass Primary Education in Other World Regions	185
10.1.3	Aims and Consequences of Compulsory Primary Education	188
10.2	Nineteenth-Century Origins of Global Secondary and Higher Education	188
10.2.1	Secondary Education in the Nineteenth Century: Diffusion of Humanistic Schools	188
10.2.2	Higher Education in the Nineteenth Century: Formation and the Beginning of the Global Diffusion of the European University Model	189
10.2.3	Global Spread of European Educational Models in the Nineteenth Century	190
10.3	Conclusion	192
	References	192
11	The First “Golden Age” of Globalization (1870–1914)	195
11.1	The Birth of Global Capital	196
11.1.1	International Monetary System of the Gold Standard	196

11.1.2	Emergence of a Global Financial Network in the Nineteenth Century	198
11.2	Global Trade Network and the First Modern Multinationals	202
11.2.1	The Expansion of Global Trade in the Nineteenth Century	202
11.2.2	The Structure of Global Trade Networks in the Nineteenth Century	204
11.2.3	The Emergence of Multinational Companies	206
11.3	Global Migration Network	210
11.3.1	Eurasian Migration to the New World	211
11.3.2	Colonization of Frontiers	216
11.4	Conclusion	221
	References	221
12	Conclusion: The Big History of Globalization Told in Ten Pages	225
12.1	Archaic and Proto-Modern Globalization	226
12.2	Early Modern Globalization	227
12.3	Modern Globalization	229
12.4	The First “Golden Age” of Globalization	232
	References	233
Appendices		235
Appendix A:	ISO Codes for Country Names	235
Appendix B:	Visualization of Global Trade Network, 1896–1906	236
Appendix C:	Visualization of Immigration Flows for the Largest Migration Recipients, Late Nineteenth–Early Twentieth Centuries	248
	References	284

About the Authors

Ivan Aleshkovski is Vice-Dean of the Faculty of Global Studies, Lomonosov Moscow State University, 1 (building 51) Leninskie Gory, 119991, Moscow, Russia. E-mail: aleshkovski@fgp.msu.ru

Alexey Andreev is Vice-Dean of the Faculty of Global Studies, Lomonosov Moscow State University, 1 (building 51) Leninskie Gory, 119991, Moscow, Russia. E-mail: andreev@fgp.msu.ru

David Christian is Director, Big History Institute, and Distinguished Professor of History at Macquarie University, Balaclava Road, North Ryde NSW, 2109, Australia. E-mail: david.christian@mq.edu.au

Leonid Grinin is Vice-Director of the Eurasian Center for Big History and System Forecasting, Institute of Oriental Studies, Russian Academy of Sciences, 12 Rozhdestvenka st., 107031, Moscow, Russia, and Chief Research Fellow at the Laboratory for Monitoring the Risks of Socio-Political Destabilization, Faculty of Social Sciences, National Research University Higher School of Economics, Moscow, Russia. E-mail: leonid.grinin@gmail.com

Ilya Ilyin is Dean of the Faculty of Global Studies, Lomonosov Moscow State University, 1 (building 51) Leninskie Gory, 119991, Moscow, Russia. E-mail: dekanat@fgp.msu.ru

Andrey Korotayev is Head of the Laboratory for Monitoring the Risks of Socio-Political Destabilization, Faculty of Social Sciences, National Research University Higher School of Economics, Moscow, Russia; Leading Research Fellow of the International Laboratory of Demography and Human Capital, Russian Presidential Academy of National Economy and Public Administration, Moscow, Russia; and Senior Research Professor at the Eurasian Center for Big History and System Forecasting, Institute of Oriental Studies, Russian Academy of Sciences, 12 Rozhdestvenka st., 107031, Moscow, Russia. E-mail: akorotayev@gmail.com

Sergey Shulgin is Vice-Head of the International Laboratory of Demography and Human Capital, Russian Presidential Academy of National Economy and Public

Administration, 82/5, Prospekt Vernadskogo, 119571, Moscow, Russia. E-mail: sergey@shulgin.ru

Julia Zinkina is Senior Research Fellow of the International Laboratory of Demography and Human Capital, Russian Presidential Academy of National Economy and Public Administration, 82/5, Prospekt Vernadskogo, 119571, Moscow, Russia. E-mail: juliazin@list.ru