

The Industrial Revolution has been, and continues to be, the focus of massive historiographical as well as historical enquiry. This collection includes reappraisals by Phyllis Deane and by François Crouzet of their classic accounts of industrialization in Britain and in France, and more generally broaches the wider issue of 'new approaches' which have been emerging for the understanding of the industrializing process in nations where it came somewhat later.

In addition to grappling with questions of technical skills, economic analysis and the process of industrialization, the authors also tackle questions of national politics and international relations. In addition to the roster of authors who examine individual national experiences, a general essay by Sidney Pollard takes into account the relative contributions of the distinct national experiences in Western and Eastern Europe, the USA and Japan, and assesses them as special cases of a more general phenomenon.



THE INDUSTRIAL REVOLUTION IN NATIONAL CONTEXT



Volumes edited by Roy Porter and Mikuláš Teich

Already published

The Enlightenment in national context
Revolution in history
Romanticism in national context
Fin de siècle and its legacy
The Renaissance in national context
The scientific revolution in national context
The national question in Europe in historical context
The Reformation in national context (with R.W. Scribner)
Sexual knowledge, sexual science: the history of attitudes to sexuality
Drugs and narcotics in history
The Industrial Revolution in national context: Europe and the USA

In preparation

Nature and society in historical context (with Bo Gustafsson)



THE INDUSTRIAL REVOLUTION IN NATIONAL CONTEXT

Europe and the USA

EDITED BY Mikuláš Teich

Robinson College, Cambridge

AND Roy Porter

The Wellcome Institute for the History of Medicine, London





CAMBRIDGE UNIVERSITY PRESS

Cambridge, New York, Melbourne, Madrid, Cape Town, Singapore, São Paulo

Cambridge University Press
The Edinburgh Building, Cambridge CB2 2RU, UK

Published in the United States of America by Cambridge University Press, New York

www.cambridge.org

Information on this title: www.cambridge.org/9780521401005

© Cambridge University Press 1996

This publication is in copyright. Subject to statutory exception and to the provisions of relevant collective licensing agreements, no reproduction of any part may take place without the written permission of Cambridge University Press.

First published 1996

A catalogue record for this publication is available from the British Library

Library of Congress Cataloguing in Publication data

The Industrial Revolution in national context: Europe and the USA / edited by Mikuláš Teich and Roy Porter.

p. cm.

ISBN 0 521 40100 3. - ISBN 0 521 40940 3 (pbk.)

- 1. Economic history 1750–1918. 2. Industrial revolution Europe.
- 3. Industrial revolution United States. I. Teich, Mikuláš.
- II. Porter, Roy, 1946-

HC53.153 1996

940.2'8-dc20 95-25377 CIP

ISBN-13 978-0-521-40100-5 hardback ISBN-10 0-521-40100-3 hardback

ISBN-13 978-0-521-40940-7 paperback ISBN-10 0-521-40940-3 paperback

Transferred to digital printing 2006



Contents

Note	es on contributors	page ix
Ack	nowledgements	xiii
Gen	eral maps and graphs	xiv
	ntroduction MIKULÁŠ TEICH AND ROY PORTER	I
I	The British Industrial Revolution PHYLLIS DEANE	13
2	France FRANÇOIS CROUZET	36
3	The Industrial Revolution in Belgium HERMAN VAN DER WEE	64
4	Industrialization in The Netherlands J. L. VAN ZANDEN	78
5	German industrialization RICHARD TILLY	95
6	Switzerland BRUNO FRITZSCHE	126
7	Italy in the <i>longue durée</i> : the return of an old first-comer CARLO PONI AND GIORGIO MORI	149
8	A latecomer: the modernization of the Spanish economy, 1800–1990 GABRIEL TORTELLA	184
9	The Industrial Revolution in Sweden	201

vii



viii	CONTENTS	
10	Austria: industrialization in a multinational setting HERBERT MATIS	226
II	The Industrial Revolution: Bohemia, Moravia and Silesia MILAN MYŠKA	247
12	Hungary: a semi-successful peripheral industrialization IVAN T. BEREND	265
13	The Industrial Revolution and the countries of South-eastern Europe in the nineteenth and early twentieth centuries LJUBEN BEROV	290
14	Industrial revolution in Russia ROGER MUNTING	329
15	Revolutions and continuities in American development WILLIAM N. PARKER	350
16	The Industrial Revolution – an overview SIDNEY POLLARD	371
Inde	ex	28a



Notes on contributors

IVAN T. BEREND is Professor of History at the University of California Los Angeles, a corresponding member of the British Academy and former president of the Hungarian Academy of Sciences. He is author or coauthor of more than twenty books, among others The Economic Development of Central and Easten Europe in the 19th and 20th Centuries, The European Periphery and Industralization 1780–1914, The Crisis Zone of Europe (Cambridge, 1986) and The Hungarian Economic Reforms 1953–1988.

LJUBEN BEROV is Professor of Economic History at the University of National and World Economy in Sofia. He is author of numerous books and essays on the economic history of Bulgaria and the Balkan countries (The Material Situation of the Working Class in Bulgaria under Capitalism, Sofia, 1962; The Economy of Bulgaria during the Centuries, Sofia, 1981; Economic Development of the World since Antiquity till Our Time, Sofia, 1994, etc.).

FRANÇOIS CROUZET (Hon. CBE) is Emeritus Professor of Modern History at the University of Paris-Sorbonne. He has published extensively on the origins and early stages of modern industrialization, in Britain and in France. His books include *Capital Formation in the Industrial Revolution* (London, 1972), *The First Industrialists* (Cambridge, 1985), *Britain Ascendant: Comparative Studies in Franco-British Economic History* (Cambridge, 1990).

PHYLLIS DEANE is Professor of Economic History, University of Cambridge and Honorary Fellow of Newnham College. She is co-author of British Economic Growth 1688–1959 (Cambridge University Press, 1967); and author inter alia of The First Industrial Revolution (Cambridge University Press, 1979) and The State and the Economic System (Oxford University Press, 1989).

BRUNO FRITZSCHE is Professor of History at the University of Zurich (Forschungsstelle für schweizerische Sozial- und Wirtschaftsgeschichte).



х

Cambridge University Press 978-0-521-40940-7 - The Industrial Revolution in National Context: Europe and the USA Edited by Mikulas Teich and Roy Porter Frontmatter More information

NOTES ON CONTRIBUTORS

His main field of research is the history of urbanization in the nineteenth and twentieth centuries. His most recent publication (as a co-author) is Geschichte des Kantons Zürich, vol. III (Zurich, 1994).

BO GUSTAFSSON is Professor of Economic History at Uppsala University and a director of the Swedish Collegium for Advanced Study in Social Sciences (SCASSS), Uppsala. He has published monographs and papers on the Industrial Revolution, public-sector growth, history of economic theories and historical modes of production. His publications include: The Saw-Mill Workers of Northern Sweden 1890–1913 (Uppsala, 1965, in Swedish); Marxismus und Revisionismus (Frankfurt/Main, 1972); The Silent Revolution. The Rise and Growth of a Local Welfare Community (Stockholm, 1988, in Swedish); Power and Economic Institutions. Reinterpretations in Economic History (Aldershot, 1991).

HERBERT MATIS is Professor of Economic History at the University of Economics and Business Administration and head of the Boltzmann-Institute of Economic Process Analysis in Vienna. He is author of numerous books on economic and business history from the eighteenth to the twentieth centuries.

GIORGIO MORI is Professor of Economic History of Europe in the University of Florence. His main, recent works are the following: 'L'economia italiana dal fine della 2^a guerra mondiale al secondo "miracolo economico", in *Storia dell'Italia Repubblicana* (Turin, 1994), pp. 131–230; 'Riabilitare la rivoluzione industriale', *Studi storici* (1994), pp. 61–72; 'L'industria italiana alla vigili della 2^a guerra mondiale', in *Festschrift für Hans Pohl* (Stuttgart, 1994).

ROGER MUNTING is Senior Lecturer in Economic and Social history at the University of East Anglia in Norwich. He studied at the University of Sheffield and did his PhD at the University of Birmingham. He has published numerous articles on Russian agrarian history, foreign trade and commerce as well as books on the economic history of the USSR and Europe in the twentieth century.

MILAN MYŠKA is Professor of Czech History at Ostrava University (Czech Republic). He is the author of several works dealing with the economic and social history of early capitalist industrialization. They include Die mährisch schlesische Eisenindustrie in der Industriellen Revolution (1970); Protoindustriální železářství v českých zemích (Protoindustrial Iron-making in the Czech Lands) (Ostrava, 1990); Opožděná industrializace (Retarded



NOTES ON CONTRIBUTORS

хi

Industrialization) (Trutnov, 1991). He contributed to Sheilagh C. Ogilvie and M. Cerman (eds.), European Proto-Industrialization: An Introductory Handbook (Cambridge, 1995).

WILLIAM N. PARKER is Bartlett Professor of Economics and Economic History, emeritus, in Yale University. A two-volume collection of his essays appeared under the title *Europe, America, and the Wider World*, from Cambridge University Press in 1986 and 1991. He is now at work on a memoir on his first sixteen years, growing up in the American Middle West.

SIDNEY POLLARD, now retired, is a former Professor of Economic History at the Universities of Sheffield and Bielefeld. His special interests are the process of industrialization in Britian and on the continent of Europe, and the British economy in the late nineteenth and twentieth centuries.

CARLO PONI is Professor of Economic History at the University of Bologna. Previously he taught at the University of Trieste and at the European University Institute of Florence. He is a fellow of St Antony's College (Oxford), a member of the Institute of Advanced Study (Princeton), Mitglied of the Wissenschaftskolleg zu Berlin and a life member of Clare Hall (Cambridge). His first interest was peasant technology. Since the early 1970s he has moved to urban and industrial history. He is currently working on institutions, technology, standards and civil society.

ROY PORTER is Professor in the Social History of Medicine at the Wellcome Institute for the History of Medicine. He is currently working on the history of hysteria. Recent books include Mind Forg'd Manacles. Madness in England from the Restoration to the Regency (London, Athlone, 1987); A Social History of Madness (London, Weidenfeld and Nicolson, 1987); In Sickness and in Health. The British Experience, 1650–1850 (London, Fourth Estate, 1988); Patient's Progress (Oxford, Policy, 1989) – these last two coauthored with Dorothy Porter; Health for Sale. Quackery in England 1660–1850 (Manchester University Press, 1989); Doctor of Society: Thomas Beddoes and the Sick Trade in Late Enlightenment England (London, Routledge, 1991) and London: A Social History (London, Hamish Hamilton, 1994).

MIKULÁŠ TEICH is Emeritus Fellow of Robinson College, Cambridge, and Honorary Professor of the Technical University Vienna. His publications include work on the history of chemistry and biomedical sciences,



xii

NOTES ON CONTRIBUTORS

social and philosophical aspects of the development of science, technology and the economy, and on the history of scientific organizations. His *A Documentary History of Biochemistry*, 1770–1940 (with the late Dorothy Needham) was published by Leicester University Press in 1992.

RICHARD TILLY taught at the University of Michigan, Yale University, the University of Wisconsin and the University of Munster where he is Professor of Economic and Social History. He is the author of Financial Institutions and Industrialization in the Rhineland, 1915–70 (Madison, University of Wisconsin Press, 1966); with C. and L. Tilly, The Rebellious Century (Harvard University Press, 1975); Vom Zollverein zum Industriestaat. Die wirtschaftlichsoziale Entwicklung Deutschlands 1834 bis 1914 (Munich, 1990). He is co-editor of Geschichte und Gesellschaft.

GABRIEL TORTELLA, who has a PhD in economics from the University of Wisconsin, presently teaches at the Universidad de Alcalá de Henares (Madrid). He has taught and researched at the Universities of Pittsburgh, California (San Diego), Chicago, Valencia and the Colegio de México, and at the Institute of Advanced Study at Princeton, and written on monetary and banking history, business history, economic policies and human capital. He is President of the International Economic History Association.

HERMAN VAN DER WEE is Professor Emeritus of Social and Economic History at Leuven University (Belgium). He has taught at several other Belgian and foreign universities. He was also a visiting fellow at several international research Institutes. His publications include *The Growth of the Antwerp Market and the European Economy (Fourteenth-Sixteenth Centuries)* (Louvain-Paris-The Hague, 1963), *Prosperity and Upheaval: The World Economy 1945–1980* (Harmondsworth-New York, Berkeley-Los Angeles, 1986), *The History of European Banking* (Antwerp, 1990), *The Low Countries in the Early Modern Times* (Aldershot, 1994).

J. L. VAN ZANDEN is Professor of Economic and Social History at the University of Utrecht. His recent publications include Rise and Decline of Holland's Economy 1350–1850 (Manchester, 1993) and The Transformation of European Agriculture in the Nineteenth Century: The Case of the Netherlands (Amsterdam, 1995). He is currently working on a study of economic growth in The Netherlands in the nineteenth century.



Acknowledgements

Since it was first planned in 1989 no other collection, in the sequence under our editorship, has been longer in the making. For the delay in getting it to press we offer our sincerest regrets to contributors who did their best to meet the agreed deadline, and may feel that they have been put at a disadvantage because of it. We record our special thanks to Sidney Pollard for his helpful copy-editorial suggestions. We are greatly indebted to Margarita Dritsas, Alison Hennegan, Sonia Kanikova, Michael Kaser, Lenos Mavrommatis, Alice Teichova and Chronis Tzedakis for aiding us in linguistic matters and to Jean Field for carefully copy-editing the text. Once again it is a pleasure to renew our warmest thanks to William Davies of Cambridge University Press for the support he has unfailingly continued to give us.



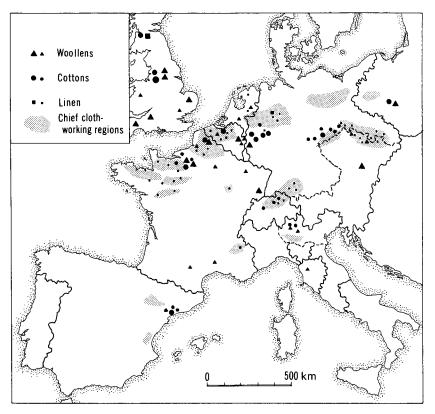
General maps and graphs

I	The European textile industry in the mid-nineteenth	
	century	page xv
2	Coal production in Europe, 1912	xvi
3	Iron and steel production in Europe, 1912	xvii
4	Railway development in Europe: (a) 1840; (b) 1850	xviii
5	Railway development in Europe, 1880	xix
6	Growth of population in Europe by country, 1800–1910	xx
7	Birthrates by country, 1810–1910	xxi
8	Population density in Europe, 1910	xxii
9	The urban population of Europe about 1910	xxiii
0	Urban development of European Russia, early twentieth	
	century	xxiv
I	Towns of the Balkan Peninsula, about 1910	XXV
2	Increase in gross national product, 1830-1910, as percentage	
	of 1830 figures, shown as per cent per year	xxvi
	All from N. J. G. Pounds, An Historical Geography of Europe	
	(Cambridge, 1988)	
13	The Balkan states ϵ . 1910. From J. R. Lampe and	
	M. R. Jackson, Balkan Economic History 1550–1950	
	(Bloomington, 1982)	xxvii
14	The north and north-east industrial-urban region of the	
	United States. From J. Wreford Watson, North America. Its	
	Countries and Regions (London, 1963).	xxviii



GENERAL MAPS AND GRAPHS

χV



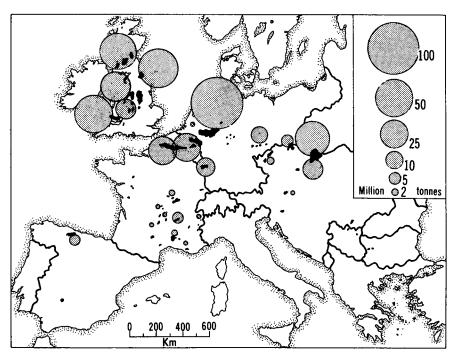
1 The European textile industry in the mid-nineteenth century



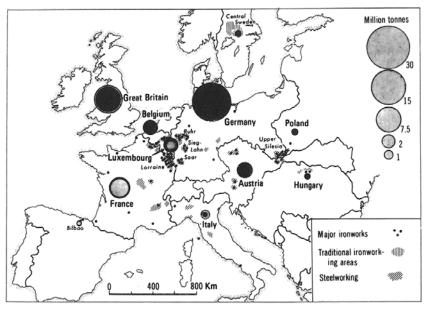
xvi

More information

GENERAL MAPS AND GRAPHS



2 Coal production in Europe, 1912. The overwhelming importance of Great Britain and Germany is apparent.



3 Iron and steel production in Europe, 1912

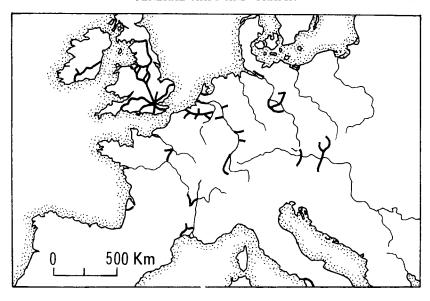


More information

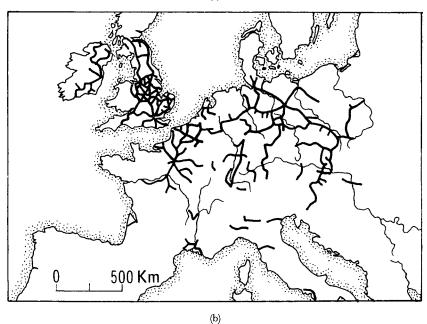
Cambridge University Press 978-0-521-40940-7 - The Industrial Revolution in National Context: Europe and the USA Edited by Mikulas Teich and Roy Porter Frontmatter

GENERAL MAPS AND GRAPHS

xvii



(a)



4 Railway development in Europe: (a) 1840; (b) 1850

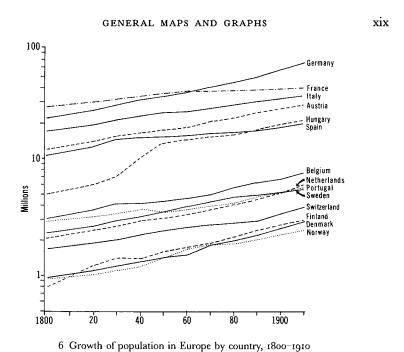


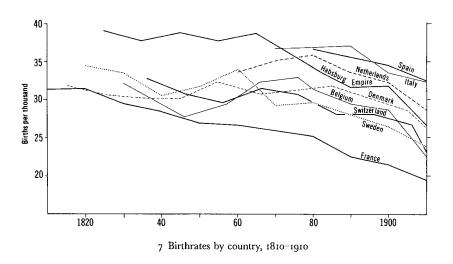
XVIII GENERAL MAPS AND GRAPHS

O 500 1000

 $_{\rm 5}\,$ Railway development in Europe, 1880



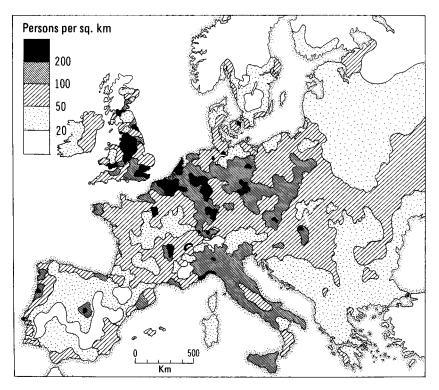






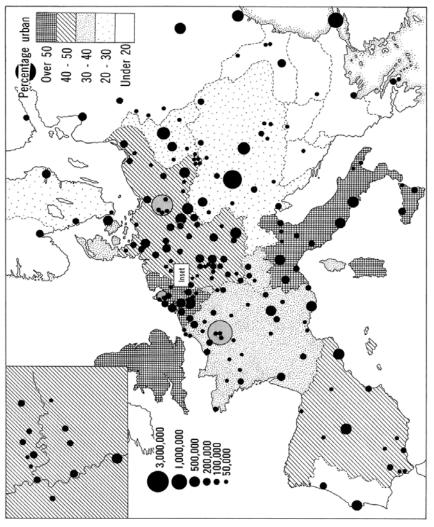
хx

GENERAL MAPS AND GRAPHS



8 Population density in Europe, 1910

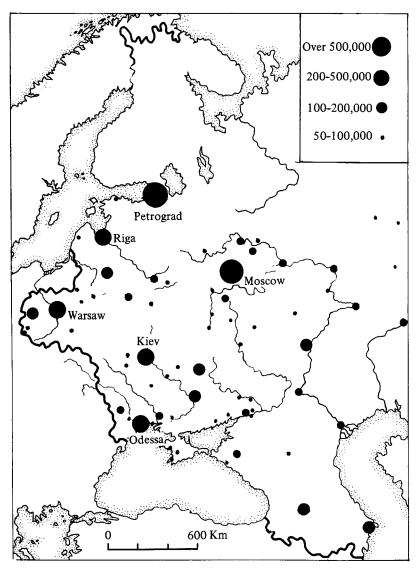




g The urban population of Europe about 1910

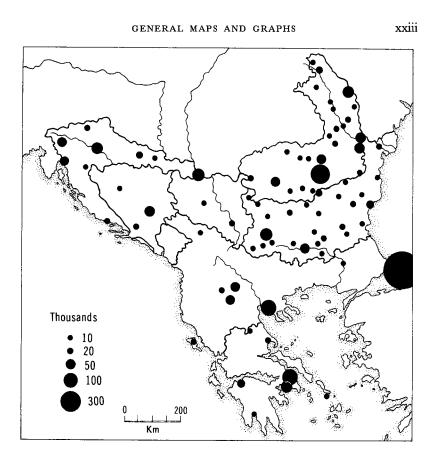


XXII GENERAL MAPS AND GRAPHS



10 Urban development of European Russia, early twentieth century



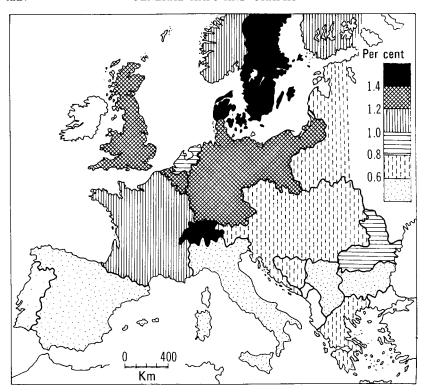


11 Towns of the Balkan Peninsula, about 1910



xxiv

GENERAL MAPS AND GRAPHS



12 Increase in gross national product, 1830–1910, as percentage of 1830 figures, shown as percent per year



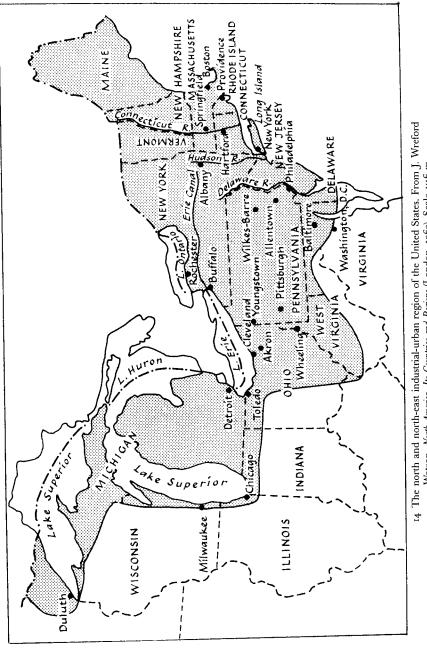
GENERAL MAPS AND GRAPHS

XXV



13 The Balkan states c. 1910. From J. R. Lampe and M. R. Jackson, Balkan Economic History 1550-1950 (Bloomington, 1982)





14 The north and north-east industrial-urban region of the United States. From J. Wreford Watson, North America. Its Countries and Regions (London, 1963). Scale 1:16 m.