

The Backbone of Europe

Health, Diet, Work, and Violence over Two Millennia

Using human skeletal remains, this volume traces health, workload, and violence in the European population over the past 2000 years. Health was surprisingly good for people who lived during the Early Medieval Period. The Plague of Justinian of the sixth century was ultimately beneficial for health because the smaller population had relatively more resources that contributed to better living conditions. Increasing population density and inequality in the following centuries imposed an unhealthy diet – poor in protein – on the European population. With the onset of the Little Ice Age in the Late Middle Ages, a further health decline ensued, which was not reversed until the nineteenth century. While some aspects of health declined, other attributes improved. During the Early Modern period, interpersonal violence (outside of warfare) declined, possibly because stronger states and institutions were able to enforce compromise and cooperation. European health over the past two millennia was hence multifaceted in nature.

Richard H. Steckel is Distinguished University Professor Emeritus at the Ohio State University. He is a pioneer in blending human biology, anthropometrics, and measures from skeletal remains for insights into health and well-being. He has published over 120 articles, including two books with Cambridge University Press.

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Cambridge University Press

978-1-108-42195-9 — The Backbone of Europe

Edited by Richard H. Steckel , Clark Spencer Larsen , Charlotte A. Roberts , Joerg Baten

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Health, Diet, Work, and Violence over Two Millennia

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CAMBRIDGE
UNIVERSITY PRESS

Cambridge University Press

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CAMBRIDGE UNIVERSITY PRESS

University Printing House, Cambridge CB2 8BS, United Kingdom

One Liberty Plaza, 20th Floor, New York, NY 10006, USA

477 Williamstown Road, Port Melbourne, VIC 3207, Australia

314–321, 3rd Floor, Plot 3, Splendor Forum, Jasola District Centre, New Delhi – 110025, India

79 Anson Road, #06–04/06, Singapore 079906

Cambridge University Press is part of the University of Cambridge.

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www.cambridge.org

Information on this title: www.cambridge.org/9781108421959

DOI: 10.1017/9781108379830

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First published 2019

Printed in the United Kingdom by TJ International Ltd. Padstow Cornwall

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

ISBN 978-1-108-42195-9 Hardback

Additional tables and other resources for this publication at www.cambridge.org/9781108421959.

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Dedicated to Phillip L. Walker, whose memory still inspires us

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Foreword

I am honored and pleased to write this foreword and contribute in this very small way to the production of this remarkable book. *The Backbone of Europe* will be acclaimed for use of archaeologically excavated skeletons (bioarchaeology) to interpret the health consequences of historic economic and social change. Within these pages the reader will find that 17 principal investigators and 75 bioarchaeologists used skeletal data from 15 119 individuals from 103 localities in 16 modern European countries to evaluate the relationships of health, nutrition, physical activity, and violence to the social and economic changes in the ways people lived between the third and nineteenth centuries. This is the largest set of human remains ever employed in a single research project.

I like to think that this major accomplishment began as a conversation between Rick Steckel and myself over a cup of coffee at the 1988 annual meeting of the Economic History Association (Detroit, Michigan). As with human history itself, *The Backbone of Europe* is the outcome of many random intersecting lines of individuals and their research over many years. My journey in what I like to call macro-bioarchaeology (interpreting large numbers of skeletons spread over large areas of time and space) began with an invitation to a conference on *Paleopathology and the Origins of Agriculture*, organized by Mark Cohen and George Armelagos in 1982 and published in 1984. Here I met many new bioarchaeology colleagues, including Clark Larsen, and learned how to collaborate on a large project involving many participants focused upon a single problem – the health consequences of adopting agriculture as a way of life. My involvement in this project and its influence on my research resulted in my invitation to participate in a conference far outside my normal field of interest and to meet Rick, accepting his invitation to have coffee.

Our discussion was wide-ranging, from the reasons that the economic historians had savaged my presentation to Rick's idea of a "health index" derived from concepts similar to GNP. We concluded the discussion with the idea that we could improve upon the research design of *Paleopathology at the Origins of Agriculture*. The excitement generated by this conversation led to my taking a sabbatical from the Anthropology Department of the University of Arkansas to spend a semester in the Economics Department of The Ohio State University working with Rick on these ideas. During our time together we concocted the rough outline of our project that led to the publication of *The Backbone of History: Health and Nutrition in the Western Hemisphere* (Steckel and Rose, 2002).

Another accidental intersection was my introduction of Paul Sciulli from the Anthropology Department at Ohio State to Rick because they were both interested in human stature. Paul became a major factor in the development of the "health index." After numerous planning and organizational meetings we were able to put together a team of 52 researchers who examined and interpreted the changes in

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health and nutrition over more than 4000 years in the Western Hemisphere. We attempted to solve the methodological weaknesses of the “Origins of Agriculture” project by having all participants recode their existing data into a common format that permitted comparison of the diverse cultures, times, and localities using the “health index.” Despite wide acclaim for this book and the contributions that it made to our understanding of culture change and health, it still had weaknesses. In particular, there were significant amounts of missing data from many skeletal series because much of the previously collected information could not be transformed into the common coding format. This resulted in gaps and difficulties calculating the “health index.”

Rick was not to be deterred; he was adamant that the “health index” would work and he and his colleagues put together an expanded team of researchers to realize this goal. *The Backbone of Europe* project and its principal investigators went on to solve these weaknesses. The data were collected directly from the skeletons using a standardized code book and entered directly into dedicated laptops which uploaded the data daily to The Ohio State University computers. The analytical results and interpretations presented in the 15 chapters of this book are truly revolutionary. Never before has such a large collection of skeletons been analyzed in a common format and compared to standardized ecological and cultural variables. This project represents a major leap forward in using skeletons to better understand our past. In my mind it is the creative conclusion to the research agenda begun by Cohen and Armelagos (1984).

I am sure that readers will find this book as absorbing as I have. The detailed interpretation of health, nutrition, physical activity, and violence within their contexts of changing cultures, settlement patterns, economics, and climate are fascinating. Many of the conclusions will replace the traditional historical interpretations of health and nutrition during these two millennia. The conclusions reached by the authors of the various chapters will surprise and delight everyone interested in the history of Europe. This book is a truly spectacular outcome of a cup-of-coffee conversation between two people who had never met before. It is also a major accomplishment for bioarchaeology achieved by the incidental intersection of many individuals and their research agendas. My congratulations to the editors and their extraordinary team of researchers and authors.

Jerome C. Rose

University Professor, *University of Arkansas*

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Cohen, M. N.; Armelagos, G. J. (eds.) (1984). *Paleopathology at the Origins of Agriculture*. Orlando: Academic Press.

Steckel, R. H.; Rose, J. C. (eds.) (2002). *The Backbone of History: Health and Nutrition in the Western Hemisphere*. Cambridge: Cambridge University Press.

Preface

This volume represents the results of the second study of health within the “Global History of Health Project,” after the 2002 volume, *The Backbone of History: Health and Nutrition in the Western Hemisphere*, edited by R. H. Steckel and J. C. Rose. With funding from the National Science Foundation (BCS-0117958) and The Ohio State University, initial efforts began with a conference organized by Richard Steckel, Clark Larsen, and Phillip Walker at The Ohio State University in June 2001. Apart from this volume’s editors, 34 senior researchers attended the conference, including 22 bioarchaeologists (19 from Europe and three from the USA), and 12 from the USA in other fields, including economics, history, and climate history.

The project coalesced at six formal project meetings in Europe, at informal gatherings at most of the subsequent American Association of Physical Anthropology meetings, and at several of the European Paleopathology Association meetings. Through grants in 2002 and again in 2005 the National Science Foundation funded our ambitious project applications to carry out the work (NSF SES-0138129 and NSF BCS-0527658; Richard Steckel principal investigator, and Clark Larsen and Phillip Walker co-investigators). A grant from the German Science Foundation to Joerg Baten funded the concluding conference at the University of Tübingen in October 2016, at which time preliminary versions of the final chapters in this volume were presented for discussion, and where we organized final editing of the project database (SFB 1070, BA 1503–1611). Each chapter in this volume was reviewed by all the editors. Upon publication of the book by Cambridge University Press, the database will be released to the public through the Inter-University Consortium for Political and Social Research (ICPSR) at the University of Michigan.

Apart from the editors, and the late Phillip Walker until his death in 2009, senior researchers who made important contributions to the design and conduct of the project include Benoit Bertrand (University Lille 2), Zsolt Bereczki (University of Szeged), Joël Blondiaux (Centre d’Etudes Paléopathologiques du Nord), the now late Ebba Daring (Stockholm University), Rimantas Jankauskas (Vilnius University), George Maat (Leiden University), Ana Carina Marques (Universidade de Coimbra), Antonia Marcsik (University of Szeged), Anastasia Papatthanasiou (Greek Ministry of Culture, Athens), Inna Potekhina (National Academy of Sciences of Ukraine), Maria Teschler-Nicola (Natural History Museum, Vienna), and Ursula Wittwer-Backofen (Albert-Ludwig University of Freiburg). For important advice on the classification of trauma we thank Megan Brickley (McMaster University). Kimberly Williams (Temple University) and Nicholas Meinzer (University of Tübingen) undertook the arduous task of cleaning the database and, in collaboration with the lead authors, tailoring the data analyses to the needs of each chapter. Leslie Williams, Tracy Betsinger, Joshua Sadvari, Julia Musial, Stefan Preuss, Susanne Voegelé, and, in particular, Katrin Rohland (University of Tübingen) provided exceptional research assistance

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during many different phases of this project, and Jill Bryant was an able project administrator. Several dozen individuals, mainly graduate students, were essential to the project as data coders. They and the institutions and museum curators who facilitated data collection are also acknowledged in Chapter 15.

We offer our thanks to faculty at The Ohio State University for their advice, support, and involvement in the growing understanding of environmental conditions that influenced the health of the populations we studied. Special acknowledgment goes to John Brooke, who advised us throughout the analytical portion of the project. Professor Carolyn Merry was very helpful with GIS issues, and Ellen Mosley-Thompson and Lonnie Thompson were important advisers on climate.

Several conference presentations helped sharpen ideas and refine the analysis, including meetings at the National Bureau of Economic Research, the Economic History Association, the Social Science History Association, and the American Association of Physical Anthropologists. Seminars at numerous universities were also helpful in developing thoughts presented in the book, including those at Harvard University, University of Michigan, University of Kansas, University of Arkansas, University of Illinois, Indiana University, the Stanford-Berkeley Economic History workshop, The Ohio State University, University of Colorado, University of Toledo, and the University of Tübingen.

Additional tables and other resources for this publication are available at <http://www.cambridge.org/9781108421959>.