

A POPULATION HISTORY OF NORTH AMERICA

Edited by

MICHAEL R. HAINES

Colgate University

RICHARD H. STECKEL

Ohio State University



CAMBRIDGE
UNIVERSITY PRESS

PUBLISHED BY THE PRESS SYNDICATE OF THE UNIVERSITY OF CAMBRIDGE
The Pitt Building, Trumpington Street, Cambridge, United Kingdom

CAMBRIDGE UNIVERSITY PRESS
The Edinburgh Building, Cambridge CB2 2RU, UK <http://www.cup.cam.ac.uk>
40 West 20th Street, New York, NY 10011-4211, USA <http://www.cup.org>
10 Stamford Road, Oakleigh, Melbourne 3166, Australia
Ruiz de Alarcón 13, 28014 Madrid, Spain

© Cambridge University Press 2000

This book 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 2000

Printed in the United States of America

Typeface Garamond 11/13 pt. *System* QuarkXPress [BTS]

A catalog record for this book is available from the British Library.

Library of Congress Cataloging in Publication Data

Haines, Michael R.

A population history of North America / Michael R. Haines, Richard
H. Steckel.

p. cm.

Includes index.

ISBN 0-521-49666-7 (hb)

I. North America – Population – History. I. Steckel, Richard H.
(Richard Hall), 1944– II. Title.

HB3503 .A3H35 2000
304.6'097 – dc21 99-23284

CIP

ISBN 0 521 49666 7 hardback

CONTENTS

List of Illustrations	<i>page</i> vii
List of Tables	x
List of Contributors	xvii
Acknowledgments	xix
Maps of North America	xxi
1 Introduction	I
MICHAEL R. HAINES AND RICHARD H. STECKEL	
2 Population History of Native North Americans	9
RUSSELL THORNTON	
3 Patterns of Disease in Early North American Populations	51
DOUGLAS H. UBELAKER	
4 The Population of the St. Lawrence Valley, 1608–1760	99
HUBERT CHARBONNEAU, BERTRAND DESJARDINS, JACQUES LÉGARÉ, AND HUBERT DENIS	
5 The White Population of the Colonial United States, 1607–1790	143
HENRY A. GEMERY	
6 The African American Population of the Colonial United States	191
LORENA S. WALSH	
7 The Peopling of Mexico from Origins to Revolution	241
ROBERT MCCA	

8	The White Population of the United States, 1790–1920 MICHAEL R. HAINES	305
9	The Population of Canada in the Nineteenth Century MARVIN MCINNIS	371
10	The African American Population of the United States, 1790–1920 RICHARD H. STECKEL	433
11	A Population History of the Caribbean STANLEY L. ENGERMAN	483
12	Canada's Population in the Twentieth Century MARVIN MCINNIS	529
13	Mexico's Demographic Transformation: From 1920 to 1990 ZADIA M. FELICIANO	601
14	Growth and Composition of the American Population in the Twentieth Century RICHARD A. EASTERLIN	631
15	Concluding Remarks MICHAEL R. HAINES AND RICHARD H. STECKEL	677
	Appendix	685
	Measurement and Estimation	685
	Basic Data	693
	Index	705

ILLUSTRATIONS

MAPS

Canada	<i>page</i> xxi
Mexico	xxii
United States of America	xxiii
2.1 Native Americans at time of European contact	10
2.2 Major trade routes	16
2.3 Contemporary federal and state reservations	36
7.1 Physiographic map of ancient Mexico identifying places mentioned in text	243
7.2 States and territories of Mexico, showing population, in-migrants, and out-migrants, 1900	282
11.1 The Caribbean region	484

FIGURES

4.1 Crude birth, death, and marriage rates and population estimates, 1630–1800	105
4.2 Observed and pioneer immigration according to period of arrival, 1608–1759	107
4.3 Seasonality of first marriages according to period of marriage	112
4.4 Age at first marriage of Canadian-born spouses according to sex and period of marriage, 1660–1755	114

4.5	Proportion of individuals who remarried according to period of first marriage and age at widowhood	115
4.6	Seasonality of conceptions according to birth order	118
4.7	Age-specific fertility rates (at all ages at marriage) for selected categories of women	119
4.8	Distribution of families according to size and type, five parishes of New France, 1640–1762	120
4.9	Age-specific fertility rates (at all ages at marriage) according to social class	122
4.10	Ratio of five-year death probabilities of males and females according to age	125
4.11	Seasonality of deaths according to age at death	127
4.12	Variation in time of the contribution of the pioneers to the genetic endowment of the French-speaking population of Quebec, 1680–1930	129
4.13	Distribution of pioneers according to the total number of descendants present on January 1, 1730	130
7.1	Population of the Basin of Mexico across the millennia	245
7.2	Aguirre-Beltrán's ethno-races of New Spain	263
7.3	Region and race in a long century of epidemics	267
7.4	The decorated hemline of this 13-year-old girl shows that she is becoming a "grown maiden of marriageable age"	272
7.5	Population of Mexico, 1790–1910	280
7.6	Speakers of native languages, Mexico, 1900	286
7.7	Disasters checked population growth of Mexico City	287
8.1	Immigrants to the United States, 1820–1920	345
9.1	Immigration to British North America, 1829–1860	385
9.2	Indices of fertility, Canada and Europe, ca. 1861	392
9.3	Indices of fertility, Canada and Europe, ca. 1891	410
9.4	Immigration to Canada, overseas arrivals less departures to the United States, 1861–1900	423
11.1	Caribbean populations, 1700–1900: Total and slave	500
11.2	Caribbean populations, 1900–1990	514
12.1	Immigration to Canada and emigration to the United States, 1900–1931	534
12.2	Age-specific fertility rates, Canada, 1931 and 1941	565

12.3	Total fertility rates, Canada and the United States, 1936–1981	572
12.4	Actual and trend total fertility rates, Canada, 1901–1981	574
12.5	Age-specific birth rates, Canada, 1936–1981	579
12.6	Total period and cohort fertility rates, Canada, 1936–1981	581
12.7	Immigration to Canada, 1945–1981	583
13.1	Crude mortality rate in Mexico, 1900–1990	605
13.2	Infant mortality rate in Mexico, 1901–1990	606
13.3	Crude birth rate in Mexico, 1900–1990	609
13.4	Crude birth and mortality rates in Mexico, 1900–1990	612
13.5	Mortality rate by region, 1930–1990	618
13.6	General fertility rate by region, 1930–1990	620
13.7	Percentage of the population that speaks an Indian language, 1930 and 1990	622

TABLES

2.1	Twentieth-century estimates of the aboriginal population of North American Indians	<i>page</i> 13
2.2	Age-specific case-fatality rates of smallpox (<i>Variola major</i>) in unvaccinated populations	20
2.3	North American aboriginal population estimates and yearly rates of decline	22
2.4	American Indian population in the United States (minus Alaska and Hawaii), 1800–1890	24
2.5	Decline of the aboriginal American Indian population of California, to 1900	25
2.6	California indentured Indians	29
2.7	Recovery of the Native American population of the United States, 1900–1990	32
2.8	Blood quantum requirement of American Indian tribes by reservation basis and size	34
2.9	Percentage urban of American Indian population of the United States, 1900–1990	38
2.10	Recovery of the American Indian population of California, 1900–1990	39
3.1	Estimates of North American population size prior to European contact	53
3.2	Parasites identified from North American archaeological contexts	74
4.1	Immigrants who experienced a family life in Quebec according to country of origin and period of arrival, 1608–1765	108

4.2	Immigrants according to category and period of arrival, 1608–1759	110
4.3	Summary of nuptiality	116
4.4	Summary of fertility	123
4.5	Summary of mortality	126
5.1	White population in the mainland British colonies and early Republic, 1610–1790	150
5.2	Mean age at first marriage, family size, and fertility, 1652–1799	153
5.3	Age structure of the white population of New York, 1703–1790	155
5.4	Comparison of white crude birth rate estimates, 1760–1810	157
5.5	Comparative crude death rates for Andover, Boston, and Philadelphia, 1720–1724 to 1770–1774	159
5.6	Life expectancy and inferred crude death rates for American mainland populations, seventeenth and eighteenth centuries	163
5.7	Alternative rates of natural increase and implicit crude birth and death rates	167
5.8	Inferred migration given assumed rates of natural increase and seasoning and passage mortality for regions, 1610–1620 to 1780–1790	171
5.9	Colony persistence and out-migration, American Revolution: Proportion of recruits born in colony by place of residence at enlistment	174
5.10	Probable components of white population growth in the mainland British colonies and the early Republic, 1610–1790	178
6.1	Percentage of African Americans in the total population of the British colonies, 1660–1790	193
6.2	Age at first conception of native-born southern slave women in the eighteenth century	203
6.3	The U.S. African American population in 1790	220
7.1	Mean age at death, selected ages: Mesoamerican precontact populations and others at various economic-technological levels	249

7.2	Demographic disaster in Mexico, 1519–1595: Authoritative estimates of total population and implied rates of decrease	253
7.3	Life expectancy at age 15 in colonial Mexico	275
7.4	Two series of population estimates: Mexico, 1790–1910	279
7.5	Life expectancy in Mexico (both sexes combined), 1800–1950	285
8.1	Population by race, residence, nativity, age, and sex, United States, 1800–1990	306
8.2	Fertility and mortality, white population, United States, 1800–1990	308
8.3	Components of population growth, United States, 1790–1990	315
8.4	White population by region, United States, 1790–1920	318
8.5	Recorded immigration to the United States by origin, 1819–1920	346
9.1	Population of Canada and its regions, 1761–1901, European population only	373
9.2	Emigration from the United Kingdom to Canada and immigration to Canada, 1815–1860	380
9.3	A conjectural accounting of Canada's population change, 1821–1861	387
9.4	Indexes of fertility, British North America, 1861	394
9.5	Infant mortality in Canadian cities, provinces, and counties, 1891	403
9.6	Fertility and change in fertility, Canadian cities and provinces, 1861–1891	407
9.7	Fertility and change in fertility, selected counties of Quebec and Ontario, 1861–1891	408
9.8	Accounting for Canadian population change, intercensal decades, 1861–1891	422
10.1	Growth of the black population in the United States, 1790–1920	435
10.2	Slave population by state, 1790–1860	438
10.3	Child/woman ratios for slaves and whites, 1820–1860	442
10.4	Demographic characteristics by plantation size	444
10.5	Free black population by state, 1790–1860	454
10.6	Child/woman ratios: Free blacks by region, 1820–1860	457

10.7	Black population by state and percentage urban, 1870–1920	462
10.8	Percentage black population by state, 1870–1920	465
10.9	Child/woman ratios: Blacks by region, 1870–1920	467
11.1	Estimated net slave imports by Caribbean areas of settlement, 1500–1800	489
11.2	Estimated migration of Europeans to the Caribbean, by European nation of origin, 1500–1800	491
11.3	Caribbean populations, 1750	494
11.4	Caribbean populations, 1830	496
11.5	Caribbean populations, 1880	498
11.6	Shares of Caribbean populations, by European settling area, 1750, 1880, 1990	501
11.7	Estimates of flows of contract labor to the Caribbean and return flow, nineteenth and twentieth centuries	502
11.8	Slave birth rates and death rates by British West Indian colony, ca. 1820s	506
11.9	Estimates of crude birth and death rates in Trinidad, Jamaica, and the United States	508
11.10	Total fertility rates of slaves in the United States (ca. 1830) and in Trinidad (ca. 1813), with an explanation for the difference in these rates	509
11.11	Caribbean populations, 1900, 1950, 1990	512
11.12	Crude birth and death rates, Caribbean, 1900, 1950, 1990	513
11.13	Five largest areas based on population, Caribbean, selected years	515
11.14	Caribbean immigrants (legal) into United States by country of birth, 1951–1990	517
12.1	Canada's population at census dates and intercensal growth rate	530
12.2	Immigrant population at census dates by period of arrival, Canada and regions, 1911–1931	538
12.3	Total and immigrant populations of larger Canadian cities, 1921	541
12.4	Foreign-born workers in major occupations, Canada, 1921	542
12.5	Canadian immigrant population by country of birth and period of arrival	544

12.6	Canada's immigrants by region of residence and area of origin, 1900–1921	545
12.7	Estimated fertility rates, Canada, 1891–1931	547
12.8	Indexes of fertility and nuptiality, Canadian cities and provinces, 1891, 1921, 1931	549
12.9	Average number of children ever born to Canadian-born 45- to 54-year-old women	554
12.10	Components of Canada's population growth, intercensal decades, 1901–1931	556
12.11	Comparative cause-specific death rates, Canada, 1901–1981	570
12.12	Variations in 1941–1961 change in gross reproduction rates by geographic districts	576
12.13	Summary of 1981 immigrant population by period of arrival	585
12.14	Migrant population of selected metropolitan areas as a percentage of total population, 1976–1981 migrants and total post-1945 immigrants	592
12.15	Components of decadal population change, Canada, 1951–1981	595
12A.1	Principal indicators of Canada's demographic record	596
12A.2	Urban and metropolitan Canada	597
12A.3	Canadian fertility rates and related measures, 1946–1981	598
13.1	Basic demographic indicators for Mexico, 1900–1990	604
13.2	Life expectancy, 1900–1990	607
13.3	Percentage of deaths by cause, 1930–1990	608
13.4	Fertility statistics, 1900–1990	611
13.5	Demographic balancing equation, 1900–1990	612
13.6	Socioeconomic indicators, 1900–1990	613
13.7	Regression of crude death rate on socioeconomic conditions	615
13.8	Mortality and fertility by region, 1930–1990	618
13.9	Regressions of mortality rate and general fertility rate on socioeconomic conditions	619
13.10	Urbanization and the growth of Mexico City, 1890–1990	624
13.11	Emigration from Mexico to the United States, 1890–1990	626

14.1	Race-nativity distribution of U.S. population, 1900 and 1950	633
14.2	Occupational distribution of native white stock, foreign white stock, and nonwhites, 1910	634
14.3	Urban-rural distribution of native white stock, foreign white stock, and nonwhites, 1910	635
14.4	Occupational distribution of females and males, 1900 and 1950	638
14.5	Occupational distribution of whites and blacks, 1950	644
14.6	Race-ethnicity distribution of U.S. population, 1970 and 1990	663
14.7	Occupational distribution of race-ethnicity groups by sex, 1990	664
A.1	Estimated population of North America, 1650–1990	694
A.2	Fertility and mortality in North America, 1800–1991	696
A.3	Components of population growth, United States (1800–1990), Canada (1851–1991), and Mexico (1900–1990)	700
A.4	Population by race, residence, nativity, age, and sex, United States (1800–1990), Canada (1851–1991), and Mexico (1900–1990)	702

1

INTRODUCTION

MICHAEL R. HAINES AND RICHARD H. STECKEL

The population of North America has undergone enormous changes in size, geographic distribution, and ethnic composition over the past several centuries. It has grown from a few million, largely rural inhabitants on the eve of Columbus's arrival to approximately 420 million, substantially urban residents at the end of the twentieth century.¹ Once composed entirely of Native Americans, the population now includes most ethnic groups from around the globe.

These changes were instigated by substantial immigration from Europe, Africa, and Asia, and by significant shifts in fertility and mortality. Whereas families of 6 to 10 children were common in the eighteenth century, the average today in most countries of North America is two to three births per woman. Life expectancy at birth now exceeds 70 years in all but the very poorest regions, an increase of roughly 100% over the past 150 years.

Population growth and redistribution have had numerous implications for economic, political, and social history. For example, the aboriginal population was decimated by disease and warfare following the arrival of Europeans and their colonial empires in the sixteenth and seventeenth centuries. Conflict within the United States and between the United States and other countries accompanied westward expansion in the nineteenth century. And women took on new roles inside and outside the home during the transition from a high-fertility rural way of life in the nineteenth century to low-fertility urban living in the twentieth century.

¹ For the purposes of this discussion, North America includes the United States, Canada, Mexico, and the Caribbean.

The story of population change in the United States was surveyed two decades ago by Richard Easterlin, in a single article, but since then research on the United States, and on North America more broadly, has mushroomed.² Bolstered by the declining costs of collecting evidence, particularly at the individual or household level, and by newly mined data sources and new demographic techniques, the current state of information in the field could hardly be summarized in a single chapter. Important research has been published not only by economists, demographers, and historians, but also by anthropologists, geographers, and political scientists. Hence, there is broad interest in the history of population, and the proliferation of literature has challenged specialists in the area of historical demography, not to mention those in related fields, to remain informed. This geographic expansion and the current impetus for North American economic cooperation suggest that a survey volume on North America would be useful and timely.

Census manuscript schedules of population illustrate the growth in data availability. In recent years, the costs of collection have declined to the point where massive samples can now be processed and analyzed. Large public-use samples and numerous specialty samples from this source have been studied in recent years for insights into fertility and migration. Similarly, population or parish records in Quebec and Mexico have yielded a wealth of information. Heights, which give considerable information on health and nutrition, have emerged as a valuable data source since the mid-1970s, and bioarcheological evidence, important for the era before written records are available, has also accumulated. In addition, economic historians have examined genealogical records to shed light on trends in fertility, mortality, and migration.

Several new techniques have emerged to enrich the analysis of existing or new data. Own-children methods, for example, are being used to assign children to mothers from sources such as the manuscript schedules of population. The results make it possible to construct fertility measures for various subgroups of the population on the basis of nativity, occupation, literacy, geographic location, or wealth. Data on children ever born and children surviving can be used to estimate childhood mortality with the aid of systems of model life tables. These systems use the proportion of children who are dead for various groups of women, whose experience is

² Richard Easterlin, "Population Issues in American Economic History: A Survey and Critique," in *Recent Developments in the Study of Business and Economic History: Essays in Honor of Herman E. Kroos* (Greenwich, Conn.: JAI Press, 1977).

adjusted for fertility patterns, to estimate model life tables. New computer resources have made it possible to match various data sources, such as households in different census years or census manuscript schedules and immigrant lists, to study geographic mobility.

This volume brings together 13 essays by population specialists summarizing the state of knowledge in this rapidly expanding field. The appendix presents basic data series that are helpful in making comparisons. Each essay discusses a basic set of topics including materials and sources; methods of analysis; trends and patterns of fertility, mortality, and internal and international migration; possible explanations of trends and patterns; implications; and research opportunities. The balance of these topics may vary from essay to essay, depending on the availability of data and research output. Each chapter includes a brief bibliographical essay.

The volume is organized in loose chronological order, beginning with Native American populations. Chapter 2 by Russell Thornton draws on archeological evidence to discuss pre-Columbian patterns of health, life expectancy, and population growth. Thornton evaluates the considerable research devoted to questions of aboriginal population size and distribution. He also examines the effects of European expansion into North America on population size and the consequent adaptations to depopulation such as migration and attempted revitalizations. Removals and relocations, the development of the reservation system, and allotments are his major focus for the nineteenth century. The twentieth-century portion of the essay considers patterns of recovery and change, intermarriage, changing definitions and self-identifications, tribal membership requirements, and urbanization. The concluding section discusses population projections, fullblood/mixed-blood differences, and the possible decline of tribalism.

In Chapter 3, Douglas Ubelaker examines disease in pre-Columbian America. He notes the antiquity of specific disorders, temporal changes in the pattern of disease, and geographic variability in this pattern throughout the Americas. He also discusses factors contributing to disease, including population size, settlement pattern, diet, and cultural variables. The author looks at temporal changes in the pattern of disease not only in the pre-Columbian period but also in the early historic period. He surveys the general impact of European-introduced diseases and their relationship to preexisting disease conditions. Since the impact of disease on specific historic populations or on population numbers is covered in other essays,

Ubelaker concentrates on the relationship between disease, environment, and culture in early North American populations.

Hubert Charbonneau, Bertrand Desjardins, Jacques Légaré, and Hubert Denis begin Chapter 4 by reminding us that conditions are excellent for the study of the historical population of Quebec: substantially complete records exist from the outset of European settlement, immigration was fairly low (preventing the population from growing to incommensurable numbers quickly), and emigration did not become significant before the nineteenth century. Researchers at the University of Montreal have created a computerized data file covering demographic events of the entire population of European descent who lived in the present territory of the Province of Quebec. The authors' analysis of these data includes new estimates of population growth, taking into account the elusive male immigrants who remained single (an important segment of the population in the earlier period). They discuss measures of fertility, nuptiality, and mortality, as well as internal migration. They compare the first wave of French settlers and their descendants, making special note of settlement patterns and the importance of fur trading to demographic behavior.

In Chapter 5, Henry Gemery examines white population change in the pre-census period of the colonial United States. In the absence of any systematic and regularized census data, population totals as well as mortality, fertility, and migration figures must be estimated from militia, tax, and emigration records and from individual colonial censuses that appeared sporadically. Beginning with a survey of these sources and the feasibility of deriving a demographic record from them, Gemery outlines the problems in analyzing trends and patterns from imperfect and fragmentary data and reviews what is known of patterns and trends based on the research undertaken to date regarding total population change; trends in sex ratios, fertility, and mortality; and patterns of immigration and internal migration. He then turns to the causal mechanisms at work in defining the observed demographic patterns and proposes directions for further research.

Colonial African American demography is the subject of Chapter 6, by Lorena Walsh, who observes that the literature in this area relies to a great degree on inference and ingenuity owing to the lack of evidence. Nevertheless, a relatively consistent overview of basic demographic patterns among early African Americans is beginning to emerge. Until roughly the mid-eighteenth century the majority of the colonial black population was both immigrant and enslaved. Walsh reviews Philip Curtin's migration

estimates and subsequent refinements and additions to those estimates. Next she examines the geographic distribution over time of the African and African American populations in the continental United States. Estimates of fertility and mortality are generally derived from analyses of sex ratios, child/woman ratios, and age structures of groups of slaves in various geographic subregions. Population densities, size and sex distribution of slaveholdings, and immigrant/Creole differences are employed to explain differing patterns. Most disputes, Walsh notes, revolve around the nature and severity of constraints on reproductive unions in the context of particular population densities and the distribution of slaves among holdings of various sizes. Other topics covered include the influence of African social behaviors retained in the New World, the likely effects of cultural alienation on fertility and morbidity, and differing experiences of immigrant and Creole slaves (paralleling the white population with a time lag). Walsh also considers similarities and differences in basic demographic rates between slaves and free blacks; urban/rural differentials; the influence of climate, staple crop regimes, and differing labor systems on demographic behavior; distinctive seasonal patterns of births and deaths among blacks and the differing susceptibility or resistance of blacks to particular New World disease environments; and sex-related mortality differentials.

Robert McCaa begins his discussion of Mexico in Chapter 7 with the peopling of ancient Mesoamerica. The greatest demographic success was attained in the Central Mexican Basin, where the population probably exceeded one million as long as two millennia ago. Despite the success suggested by the numbers alone, the population experienced very high mortality rates and suffered from numerous degenerative diseases. McCaa then discusses colonial Mexico and what is known about population size at the time of the European invasion in 1519. He considers the size of the ensuing demographic disaster, its principal causes, and the effects of the Spanish conquest and colonization. The nineteenth century was disappointing for many Mexicans, in part because numerous wars and conflicts followed independence in 1821. Population growth slowed in the mid-1800s but rebounded to an annual rate of 1.5% in the last quarter of the century.

Michael Haines organizes his essay on the white population of the United States in Chapter 8 around the topics of data sources, techniques of population analysis, and results on fertility, mortality, migration, and emigration. The federal censuses beginning in 1790 were the major sources

for the study of population growth, structure, redistribution, and fertility prior to the twentieth century. Unfortunately, the system of vital registration (conducted by states) was not well under way until the turn of the twentieth century, but official emigration statistics were maintained from 1819 on. The United States clearly ranked high among nations in total population growth. Haines discusses various estimation techniques and results for crude birth and death rates, child-woman ratios, total fertility, rates of total and natural increase, and rates of net migration. Possible explanations for the fertility transition, which began in the early nineteenth century, and cycles in health as depicted by life expectancy and stature occupy the central portion of the essay. The influence of geographic patterns, such as rural-urban areas, on demographic behavior are carefully articulated. Theories of migration are brought to bear on the westward movement, urbanization, and international migration flows.

Chapter 9 by Marvin McNinn is about nineteenth-century Canada. The author concentrates on the second half of the period, when data resources were fairly abundant. McNinn sketches early immigration and settlement, providing population totals for several years prior to the comprehensive census of 1851. He shows that declines in marital fertility must have begun earlier in some districts of Canada. Birth rates were already lower in cities and towns than in rural areas, and the characteristic North American pattern of a relationship between fertility rates and duration of settlement was already evident in Ontario and the anglophone districts of Quebec. Francophone fertility rates were almost uniformly high – close to Hutterite levels. The remainder of the chapter focuses on two topics: (a) the early stages of the fertility transition and the extent of reduction achieved by the end of the century, and (b) Canada's transition to a country of emigration. Although little information is available on change in mortality, McNinn attempts to establish the likely level of mortality rates; he finds little evidence of significant change before the very end of the century.

Richard Steckel's essay on the African American population in Chapter 10 covers slavery, the experience of free blacks up to 1860, and the post-emancipation black population. The federal population census furnishes much of the evidence for Steckel's study, but important sources such as plantation records, slave manifests (which contain stature), and probate records are important sources on the demographic behavior of slaves. Central questions addressed for slaves include the decision-making environment for fertility and mortality (the relationship between planters and

slaves); the decline of birth rates before 1860; and the unusual age pattern of slave health (children were remarkably unhealthy, but adults were in reasonably good health). Since relatively little research has been done on the demographic behavior of free blacks before 1860, the author assembles evidence readily at hand to describe and analyze fertility, mortality, migration, and emancipations. Demographic behavior after the Civil War is compared with that under slavery, and overall patterns are discussed in relation to those of whites. The essay concludes by discussing the dimensions and determinants of population redistribution from the South to northern cities that began in the early part of the twentieth century.

In Chapter 11 Stanley Engerman documents several phases of demographic change in the Caribbean. Although techniques, data sources, and results vary, scholars estimate that the population of Amerindians, which includes the Ciboney, the Arawak, and the Carib, may have been 750,000 when Columbus arrived in the late 1400s. During the years of colonization and slavery, immigration was high and the West Indies became predominantly black. After slavery was abolished in the 1800s, immigrant contract workers replaced forced labor. During the twentieth century, the Caribbean, much like the rest of the developing world, experienced a demographic transition characterized by mortality decline followed by falling fertility. After World War II, there was substantial outmigration to North America and Western Europe.

Marvin McNinnis divides his discussion of Canada's population in the twentieth century in Chapter 12 into two main parts beginning with the period up to 1931, which marks the completion of the fertility transition and resumption of large-scale immigration into the country. The settlement of the Canadian West and the great urban growth in eastern Canada that accompanied it involved very large inflows of immigrants. The composition of immigration also changed, with the United States and Central and Eastern Europe emerging as large sources of inflow. Interestingly, Canada also sent large numbers of emigrants to the United States during this period. By 1931 the fertility decline had bottomed out among the anglophone population. Although births remained high in the francophone population, the rates were coming down and there was considerable geographic diversity. Turning to the period after 1931, McNinnis first discusses population change during the period of the Great Depression, assessing the fertility and mortality regimes attained at that time. He then moves on to the changes in immigration and fertility during the post-World War II years. The baby boom was essentially an urban

phenomenon and the subsequent fertility decline was shorter, sharper, and deeper in Canada than in the United States. After the war immigration resumed on a large scale, primarily from countries of the Third World. The chapter concludes with a short examination of the recent, relatively stable situation in a regime of below-replacement natural population change, modified by continuing immigration at a moderately high level.

Unlike the population of Canada or the United States, that of Mexico continued to grow rapidly up to the 1970s by an excess of births over deaths, as Zadia Feliciano notes in Chapter 13, which sketches the major components of Mexico's population change from the late nineteenth century to the present. Until the recent promotion of family planning, birth rates generally exceeded 5% in an environment in which mortality rates had been trending downward since the early twentieth century, a phenomenon assisted by economic growth and improved availability of health services such as vaccinations. The crude death rate declined from 34.4 per thousand in 1895–1899 to 15.1 per thousand in 1950–1954. The resulting rapid population growth and its consequences form the core of the remainder of the essay. Accelerating population growth led to rapid urbanization, and Mexico City emerged as one of the largest and fastest-growing cities in the world. The share of Mexico's total population living in that city increased from 12% in 1900 to more than 23% in 1970. Emigration to the United States also accelerated, increasing from 0.2% of the population in 1900 to 2.2% in 1980. Immigration was a minor factor in overall population growth of Mexico, which differed in this respect from Canada and the United States.

As Richard Easterlin shows in Chapter 14, the U.S. experience in the twentieth century featured striking new developments in all the traditional areas of demographic study: fertility, mortality, internal migration, and international migration. In fertility, after seemingly reaching the final stage of the fertility transition in the 1930s, the country had a post-World War II baby boom followed by an equally surprising baby bust. Mortality decline, which some thought had reached an unbreachable low in the late 1950s, resumed in the 1960s as new breakthroughs in heart disease led to unprecedented improvements in life at older ages. The historic pattern of rural-to-urban internal migration slowed and reversed, as a new movement emerged into nonmetropolitan areas not linked to major population centers. Here, Easterlin notes, the composition of immigration shifted from traditional European to non-European sources.