Historical Demography

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Myron P. Gutmann and Emily Klancher Merchant

Introduction

The study of historical populations has played an important part in demographic research, beginning in the 1950s, and continuing to the present. In this chapter we discuss much of that research and the important findings it reveals. Our review, however, only scratches the surface of a large and evolving field. At its origins, the modern field of historical demography was created by demographers who were attempting to understand the potential future trajectory of low-income countries by analyzing historical European populations as a model of demographic change. That enterprise continued, but it was quickly joined by historical researchers who wanted to use the methods and data unearthed by the early historical demographers to better understand the past on its own terms. More recently, historically-oriented social scientists, especially sociologists, economists, and geographers, have increasingly used historical populations as sources to explore broadly understood social scientific theory, for example, issues involving social mobility, or the relationships between resource availability, or pollution, and such diverse outcomes as mortality or migration.

M. P. Gutmann (✉)
University of Colorado Boulder, Boulder, CO, USA
e-mail: myron.gutmann@colorado.edu

E. K. Merchant
University of California, Davis, Davis, CA, USA

In this chapter we introduce the origins of modern historical demography, and then turn to a description of the data and methods used by historical demographers. We follow that with a description of important knowledge derived by the study of past populations, with most of our discussion based on findings from Europe, and some from the United States and East Asia. We conclude by listing a few of the topics that we have not discussed but are worthy of further consideration.

Historical demography as we know it today originated in the mid-1950s to solve two problems that vexed demographers of the time: (1) how to estimate current population and project future population in high fertility countries that lacked adequate data; and (2) how to encourage fertility decline in those countries. Estimating and projecting the size and structure of populations worldwide was one of the key activities of the United Nations Population Division, which aimed to guide international agencies and nongovernmental organizations in their efforts to assist the economic development of countries in Asia, Africa, and Latin America. By the mid-1950s, it had become apparent that mortality was falling rapidly in Asia and Latin America, and would likely begin to decline soon in Africa, while fertility remained high in most countries, generating dramatic population growth. Demographers and economists worried that development efforts might well be derailed by rapid population growth, which threatened to divert resources

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from capital accumulation to immediate consumption by expanding families, and that a delay in development could render these countries vulnerable to communist revolution (Coale and Hoover 1958; Rostow 1960). As international agencies and nongovernmental organizations began to view population growth as a barrier to economic development, they also began to engage demographers in exploring how to trigger fertility decline in societies that had not begun to experience the types of modernization that were expected to produce an endogenous demographic transition (Merchant 2017).

"Demographic transition" was a phrase coined during World War II by demographers at Princeton University's Office of Population Research (OPR), though some of the concepts it referenced had been articulated earlier in the century (Kirk 1944; Notestein 1945). In broad strokes, demographic transition theory refers to the idea that the process of modernization is accompanied by an epochal shift in a society's demographic regime from high rates of fertility and mortality to low rates of fertility and mortality, with the lag between mortality decline and fertility decline producing a brief period of rapid population growth. Interwar demographers had observed this general pattern (Thompson 1929). The wartime innovation of OPR's demographers was to theorize that all societies will undergo the same transitions as they modernize. They expected that the tides of modernization would eventually sweep across the whole world (Davis 1945). Universalizing the process of demographic transition allowed OPR demographers to conceptualize cross-sectional differences in fertility and mortality rates between countries as representative of chronological change along a universal longitudinal trajectory of modernization that would be experienced by each country over a different span of time. That is, present vital rates in low-fertility countries could stand in for future vital rates in high-fertility countries for the purpose of population projection (Notestein 1944). Demographers hoped that documenting the history of mortality decline and fertility decline in Europe would enable policy makers to anticipate and even trigger similar processes in high-fertility countries.

European and Euro-American thinkers had a long tradition of interpreting cross-sectional variation as longitudinal change, "reading history sideways" (Thornton 2001, 2005) by assuming that the present of various non-European societies represented a variety of stages in the past of European societies. This practice, known as conjectural history, drew on contemporary ethnographic evidence from other parts of the world to fill in Europe's unknown historical record (Palmeri 2008). In the second and later editions of his *Essay on the Principle of Population*, Thomas Robert Malthus (1803) combined contemporary data and historical texts on Europe with travelers' accounts of other parts of the world to develop a universal human history of population that placed the England of his time at the apex. According to the Malthusian worldview, powerful checks to population growth kept population in balance with natural resources. England had evolved the so-called preventive check of moral restraint, or late and non-universal marriage, which kept fertility low and allowed England to escape the tyranny of the so-called positive check of high mortality, often through epidemics, famines, and wars. Malthus theorized that the positive check reigned in societies that were characterized by early and universal marriage, the exemplar being China. He suggested that this universal population history could be read either geographically, from China in the east to England in the west, or chronologically, from past to present within England.

Historical demography would invert conjectural history. Instead of exploring the non-European world to discover Europe's past, demographers would explore the recorded traces of European history, and later the histories of Asia and the Americas, to understand, anticipate, and even stimulate demographic change in the rest of the world. As the problem of rapid global population growth became increasingly urgent in the 1950s and 1960s, it also became apparent that, despite efforts by the United Nations and the U.S. Census Bureau to facilitate coordinated

national censuses in all countries of the world, many high-fertility countries still lacked the capacity to take regular censuses or to maintain systems of vital registration (Merchant 2015). Historical population data from Europe allowed demographers to fill in some of the blanks in contemporary data with model life tables and fertility schedules (Coale and Demeny 1966; Coale and Trussell 1974), which were produced in tandem with projects to develop methods of indirect estimation that would extrapolate a full demographic portrait of a society from a limited quantity of information elicited in sample surveys (Brass et al. 1968).

Nearly as soon as demographers and historians began to assemble the traces of the past and develop sophisticated methods of extracting demographic information from them, they discovered that many of their foundational assumptions had been wrong. In terms of marriage practices and household structure, Europe's past looked more like its present than like the present of any other part of the world. China had its own history that was less dominated by uncontrolled mortality than Malthus had assumed. Such discoveries laid the foundation for the development over the last 60 years of a vibrant field of historical demography that utilizes demographic methods to investigate the history of particular societies worldwide and involves comparisons across time and space to disentangle the socially specific and biologically universal aspects of the human processes of birth, marriage, migration, and death.

Although it was only in the 1950s that a distinctive set of research questions, data sources, and analytic methods crystallized around the study of historical population dynamics, there were important precursors, especially in England. Three hundred years earlier, John Graunt (Graunt and Petty 1662) had used weekly statistics of death from the London Bills of Mortality (1662–1663) as raw material for the earliest life tables. With these data, he could describe both the general level of mortality in London and the impact of epidemic shocks. Many authors followed in Graunt's footsteps, even before the early development of contemporary methods in the 1950s. Notable examples are Josiah Russell's (1948) classic *British Medieval Population*, John Brownlee's (1915) study of birth and death rates in England and Wales beginning in 1570, and Talbot Griffith's (1926) *Population Problems of the Age of Malthus*. There are important continuities between these works and later studies in historical demography. The earlier works utilized some of the basic sources that would be exploited more systematically later, and the later studies revisited some of the question posed by earlier scholars, such as the cause of population growth in eighteenth-century England.

At the same time that historical demography turned the past into a source of data for population studies, it also turned demographic methods into an analytic toolkit for historians. Approaches from historical demography made valuable contributions to ongoing historical projects, such as those of the *Annales* School in France (Séguy 2016), and inspired new historical projects, such as those of the Cambridge Group for the History of Population and Social Structure in England (Wrigley 1998). Historical demography promised valuable insights to social historians, who hoped to glean from the statistical record information about ordinary people who left scant traces in the documentary record.

This chapter will provide a two-part overview of historical demography since the mid-1950s. In the first part, we will document the data sources and analytic methods utilized by historical demographers. In the second part we will survey the discoveries historical demographers have made using historical data and demographic methods. Historical demography is an enormous field, and our treatment of it is necessarily incomplete. We will focus on research on Europe and include only partial treatments of North America and East Asia. We will emphasize work on family formation and fertility, with much less attention to mortality, migration, and other demographic concerns. Our chapter is deeply indebted to surveys of historical demography that have come before, including van de Walle's (2005) chapter in the first edition of this *Handbook of Population,* as well as works by Fauve-Chamoux et al. (2016) and Willigan and Lynch (1982).

The Materials and Tools of Historical Demography

Although historical population data were generally more complete than were the data available for many contemporary societies in the middle of the twentieth century, they were quite different from those with which demographers were accustomed to working. As scholars traveled deeper into the past, national censuses and vital registers faded into local household registers, genealogies, and parish records. The history of historical demography is, in large part, the story of acquiring and compiling dispersed data, exploiting their strengths while compensating for their weaknesses, building a research agenda suited to available sources, and developing new methods to advance that research agenda.

Data

Virtually all demographic analysis relies on two kinds of data: one kind indicates the size and age-sex structure of a population at a specific time, for example, the population of a city on January 1 of a certain year; the second kind indicates how the population has changed over a given period of time, for example how many people were born, or how many died, or how many people moved into or out of the city, during the previous year. In the early twenty-first century, demographers primarily use censuses for the first type of data and recording or registration systems, for example birth and death registrations, for the second. Continuous registration systems that combine the two provide an alternative in a small number of countries.

The individual, instantaneous, periodic, and universal censuses we know today are a product of new state management practices that arose in Europe and North America at the end of the eighteenth century (Curtis 2001; Emigh et al. 2016b). The *Constitution* of the United States mandated a census every 10 years, beginning in 1790, to provide a statistical basis for the apportionment of Congressional representation among the states (Anderson 2015; U.S. Bureau of the Census 2002). The French Revolutionary government established *the Bureau général de statistiques* in 1798 for official statistical purposes, including census-taking (Bourdelais 2004; van de Walle 1974). It was abolished in 1812, restored in 1834, and renamed *Statistique générale de France* in 1840. Great Britain conducted its first national census in 1801, in response to calls for democratization in the wake of the French and American Revolutions, and to answer questions regarding the vitality of the state in the century following the 1688 Glorious Revolution (Glass 1973). National censuses began to list each person by name in 1836 in France, in 1841 in the U.K., and in 1850 in the U.S. (Alterman 1969; Anderson 2015; Goyer and Draaijer 1992; U.S. Bureau of the Census 2002). Nationwide civil vital registration also began in the first half of the nineteenth century in the U.K. and France. In the United States, vital registration is considered a state-level activity, and developed piecemeal. National efforts to systematize and consolidate data collection began around 1900 but remained incomplete until 1933 (Hetzel 1997; Shapiro 1950).

Over the course of the nineteenth century, government statistical bureaus were created in countries across Europe and the Americas, expanding the reach of modern approaches to census-taking to newly-emerging and smaller nations, including Belgium and the Netherlands, Canada and Brazil, and eventually Germany and Italy (Loveman 2009; Patriarca 1996). In the 1850s, led by Belgian astronomer and statistician Adolphe Quetelet, these statistical bureaus began to meet regularly under the auspices of the International Statistical Congress for the sharing of ideas. As a result, census-taking and vital registration became expected functions of modern states. Standards emerged to govern data collection and quality, as did norms regarding the prompt and complete publication of data in tabular form (Ventresca 1995). In the mid-twentieth century, the United Nations expanded these expectations regarding census taking to the entire world (Merchant 2015). Since then, many of these tabular census products have been converted to digital

form and released online, two examples being the extensive collection of state- and county-level U.S. data published by the Inter-university Consortium for Political and Social Research (Haines 2010), and similar collections for France (Inter-university Consortium for Political and Social Research 1992, 2010).

Even more recently, samples of historical microdata have been systematically digitized and made publicly available, both by national bodies and by international projects, with the density of samples increasing as the cost of computing power has fallen. In many cases, full digital transcriptions of all of the individuals who lived are publicly available for research (Hall et al. 2000; Ruggles 2014; Ruggles et al. 2011, 2017; Thorvaldsen 2018). All of these censuses have contributed to our knowledge of population in the nineteenth and twentieth centuries, with higher-density samples of the more detailed individual-level censuses facilitating the most sophisticated analyses (Gutmann et al. 2018). Research based on these public census data has begun to revolutionize historical demography by allowing analysis of extremely rare phenomena, such as religious intermarriage in Ireland in 1911, which occurred infrequently because of religious intolerance, but is only understandable when analyzed in the context of local marriage markets (Fernihough et al. 2015).

The statistical innovations of the nineteenth century also introduced a source of demographic data in some countries that has proven particularly productive for historical demographers. We are referring here to continuous demographic registers that listed the members of every household and were constantly updated. These registers combine the attributes of a census, i.e., an accurate and complete enumeration at a single point in time, with those of vital registration, i.e., tabulating events such as births and deaths as they occur, to provide continuous information about the stock and flow of population. Originally created for purposes of policing the state, and often maintained by the police authorities rather than the vital statistics authorities, these registers exist in various forms for Belgium (Alter 1988; Gutmann and van de Walle 1978; van de Walle and Blanc 1975), the Netherlands (Mandemakers 2000), and parts of Italy and Germany. Frequent censuses provide an analogous source, particularly for China and Japan. With care, enumerations conducted every one, two, or even three years can be subjected to much the same analysis as continuous population registers (Bengtsson et al. 2004; Dong et al. 2015; Hayami 1979).

Censuses, vital records, and population registers have proven invaluable for the historical analysis of populations in the nineteenth and twentieth centuries. However, the originators of modern historical demography in the 1950s had to come to grips with the fact that these statistical products were relatively recent inventions. Indeed, censuses, vital registration, and population registers developed as part of the complex of modern social, political, and economic institutions that were thought to have produced the very changes the earliest historical demographers sought to understand, namely, the emergence of the nuclear family and the adoption of fertility control. For that reason, they were not available for the study of pre-transitional population dynamics. Research on earlier periods has relied on sources that typically have more limited coverage, i.e., parish registers, genealogies, and a variety of censuses that predate the establishment of national statistical bureaus.

In many regions with Christian religious traditions, baptisms, marriages, and burials were registered at the parish level. These registration systems became more systematic in the sixteenth century, especially after the Council of Trent (1545–1563) in Catholic communities. In England, baptism, marriage, and burial registration was required beginning in 1538 (Pounds 2000). In France baptisms were required in 1539, but marriages and burials not until 1579 (Delsalle 2009). Elsewhere, systematic registration began in the sixteenth and seventeenth centuries (Hollingsworth 1969; Willigan and Lynch 1982). Important research has also been possible in some non-European colonial settings where registrations took place, most notably French Canada (Charbonneau et al. 1993; Greer 1997). Because parochial registration was by definition local, many records were never maintained

systematically, and many have been lost over the centuries, making complete national-level coverage impossible. Nevertheless, large-scale projects have been undertaken using parish records for a sizeable sample of localities in both England and France (Blayo 1975; Henry 1972, 1978; Henry and Blayo 1975; Henry and Houdaille 1973; Wrigley and Schofield 1981).

Genealogies provide information on vital events for members of the lineages they record. They have been used productively by researchers studying the United States, Canada, Germany, Switzerland, and China, among others (Adams and Kasakoff 1980, 1984; Hollingsworth 1969; Knodel 1988; Knodel and Lottes 1975; Shiue 2016; Zhao 2001). The fact that they follow specific families across generations makes them particularly useful for studying intergenerational dynamics, but it also makes them less representative. In particular, they tend to over-represent those whose descendants survived to the time the genealogies were compiled (Zhao 2001). Unlike parish registers, however, genealogies are not necessarily bounded by location, and have the potential to follow family members even as they migrate.

Finally, a variety of proto-censuses reflects the desire of ancient, medieval, and early modern governments to know about their inhabitants, often for purposes of maximizing revenue (Emigh et al. 2016a). Examples can be found as far back as the Egyptian kingdoms (Alterman 1969). Among the earliest European census-type surveys that have been analyzed for demographic purposes are the Domesday Book that enumerated England and Wales in the late eleventh century (Maitland 1897; Roffe 2000), and the Florentine *Catasto* of 1427 (Herlihy and Klapisch-Zuber 1978). Census-type surveys covered a variety of localities and population segments in Europe and Asia in the eighteenth century and have been particularly useful for the analysis of household structure (Hayami 2016).

Methods

In the decades after World War II, the methodological challenges faced by the first modern historical demographers stemmed from the fact that they had at once not enough and too much data. Historical data were inadequate in the sense that one or another of the two main requirements for demographic research, an enumeration that revealed the size and structure of the population, usually a census, and a careful listing of demographic events, usually vital registrations, was often simply unavailable. Historical demographers had to find ways to speak meaningfully about population dynamics when they lacked information either about the components of change, i.e., mortality, fertility, and migration, or about the population at risk of experiencing those changes. At the same time, historical data were superabundant in the sense that they covered a chronological depth, in terms of both individual lives and the history of societies, with which contemporary social scientists were unaccustomed to working. Historical demographers had to find ways to model longitudinal processes, both in the sense of individuals moving through the life course and in the sense of societies experiencing historical change, and, moreover, they had to conceptualize the links between the two. The solutions to this pair of challenges, not enough and too much data, often went hand-in-hand.

One of the earliest bodies of postwar historical demographic research focused solely on tabulating vital events listed in such religious documents as registers of baptisms, marriages, and burials, and analyzing the resulting time series (Eversley 1966; Henry 1953; Willigan and Lynch 1982). Change over time in the frequency of vital events provided information about the seasonality of births, marriages, and deaths, and allowed researchers to identify unusual patterns of events, for example the periodic mortality crises that shocked normal demographic processes. Using these methods, knowledge of past population was transformed by the pioneers of historical demography in Europe, especially Louis Henry and his colleagues in France (Rosental 2003); E.A. Wrigley, T.H. Hollingsworth, D.V. Glass, and D.E.C. Eversley in England (Eversley 1957; Glass 1968; Hollingsworth 1957, 1964, 1969, 1977; Wrigley 1966a, b); B.H. Slicher van Bath in the

Netherlands (Slicher van Bath 1968); and Etienne Hélin in Belgium (Hélin 1963a, b; Hélin and van Santbergen 1958). The more detailed the registration, the more sophisticated the analysis, but the limitations of the data, which often provided little information beyond the fact of an event and the names of the individuals involved, prevented investigations that captured all the details needed to fully understand demographic change.

In the face of these limitations, demographers developed approaches that went beyond simple tabulation and examination of trends. One of the most influential is a process known as back projection, developed by English historical demographers to identify the size and age-sex structure of populations over time in the absence of reliable censuses (Wrigley and Schofield 1981). Unlike conventional projection methods that start with a baseline population and move forward through time, back projection starts at a more recent point in time and moves backward year by year, adding back the population eliminated by death and subtracting the population added by births (Lee 1974, 1985; Oeppen 1993). This approach takes advantage of the fact that the likelihood of a good quality census increases over time. A researcher who can anchor her work in the mid-nineteenth century or later can use back projection to reconstruct the size and structure of the population in earlier times. With back projection, historical demographers utilize the time depth of vital event records to compensate for the absence of reliable censuses.

One of the most important insights among the many innovations of this period was the realization by Louis Henry and his collaborators that it was possible to know the population at risk of some demographic events by manipulating data about the whole complex of vital events that occurred over individual and familial life-courses and were available in genealogies or synthetic genealogies constructed from parish registers. This approach was especially valuable for the study of fertility change. In his study of fertility decline among the bourgeoisie of Geneva, Henry (1956) showed that one could know precisely how long married women were exposed to the risk of giving birth. Where genealogies were not available, Henry constructed them from parish registers, using a record linkage technique he called family reconstitution (Fleury and Henry 1956). The first parish reconstituted with this method was Crulai in Normandy (Gautier and Henry 1958). For families that can be successfully reconstituted, where births, marriages, and deaths were consistently recorded within the same parish, historical demographers can calculate the population at risk of events from the records of the events themselves. However, this method has implications for analysis because it restricts the data analyzed to individuals and families whose exposure is known and complete, and where analytic censoring issues are well understood (Watkins and Gutmann 1983). In practice, this usually means that only individuals who remained in the same parish from birth to death, or at least from birth to marriage, or from marriage to the end of a women's ability to bear children, or to her death or the death of the spouse, may be included in the analysis. There is therefore a risk that migrants excluded from the analysis make the analyzed population unrepresentative (Kasakoff and Adams 1995; Ruggles 1992; Wrigley 1994).

The impact of family reconstitution methods, both as a set of strategies for record linkage and as a set of analytic methods, has been monumental, especially for their capacity to introduce and later expand longitudinal approaches to historical demography. Family reconstitution methods were quickly emulated and adopted outside of France, especially after the publication of Wrigley's (1966b) clear English-language explanation. The methods described initially by Fleury and Henry (1956), and then by Wrigley, were purely manual, involving a concise, systematic list of maneuvers with pencil, paper, and string. The task was enormous, even at the scale of a single parish, given the number of individual events, the number of people to be identified, and the risk of confusion and error. Within a few years, however, the possibility of computer assistance, and even completely computerized record linkage, generated new opportunities (Bouchard 1992; Wrigley 1973). Recent work has built on computational advances and new

understandings of the complexities of data linkage to make large-scale linkage feasible in historical demographic research (Bailey et al. 2017; Bloothooft et al. 2015; Ferrie 1996; Massey 2017; Ruggles et al. 2018). The availability of linked census data has begun to lead to significant insights, especially about social mobility. The ability to compare the social condition of the families of individuals in their childhood to those of their adult lives has led, for example, to the finding that intergenerational occupational mobility was predictably greater in the U.S. than in Britain in the nineteenth and early twentieth centuries, but by the 1950s the difference had disappeared (Long and Ferrie 2013).

The development of conceptual and technological methods for creating and managing longitudinal demographic databases has allowed for enormous advances in the understanding of historical populations. An ever-expanding list of large-scale projects has developed longitudinal linked data resources by combining censuses, religious and civil vital registration, population registers, and genealogies in ways that exploit the strengths and compensate for the weaknesses of each individual data source, and that allow for rigorous analysis of change over time on both individual and historical scales. In North America, these projects cover French Canada (Bouchard 1992; Desjardins 1999; Légaré 1988), Utah (Bean et al. 1978, 1990), and Civil War veterans (Fogel 1993). In Europe, there are valuable data collections about France (Bourdieu et al. 2014), the Netherlands (Mandemakers 2000), the city of Antwerp (Matthijs and Moreels 2010), and parts of Sweden (Bengtsson and Dribe 1997; Edvinsson 2000). Many of these and others are now available through the European Historical Population Samples Network in a standard format that facilitates analysis across datasets and national contexts (Alter et al. 2009). In Asia, data are available for parts of China, Japan, Korea, and Taiwan (Dong et al. 2015). Among the most interesting aspects of the development of these longitudinal linked data collections have been efforts to use them for global comparative research, with growing opportunities for new discoveries (Bengtsson et al. 2004; Campbell et al. 2004; Roberts et al. 2003; Ruggles et al. 2011).

Once historical data have been assembled into individual life histories, family units, or aggregate populations, the analytic methods of historical demography are often the same as, or are analogous to, those of contemporary demography, which require little description here; they are covered in other chapters in this *Handbook*. Most historical population research has as its basic approach the calculation of demographic rates and ratios, as well as life tables, using conventional methods, though historical studies have innovated in the calculation of demographic rates from longitudinal rather than cross-sectional data and in the analysis of cohort rather than period measures. Historical demography has followed a historical trajectory similar to that observed in contemporary demography over the last 60 years, with analysis of aggregate vital rates and their structural correlates giving way to analysis of individual vital processes and their personal and familial correlates. In the world of historical demography, longitudinal life-course databases are the analogue of surveys such as the Demographic and Health Surveys in the world of contemporary demography. Since the 1980s, increasing computational capabilities have facilitated historical demographers' use of multivariate statistical techniques, especially those based on life tables that fall within the general framework of event history and proportional hazards statistical models (Alter 1988; Cox 1972; Gutmann and Alter 1993). These methods facilitate causal arguments about the way in which demographic processes unfold over time, both at the scale of the individual life course and at the scale of historical change.

What We Have Learned from Historical Demography

Over the last 60 years, research in historical demography has fundamentally changed how historians and demographers understand the recent human past, particularly in terms of the history of family-building processes, but also in

terms of migration and mortality. Demographers embarking on historical studies, and historians embarking on demographic studies, in the middle of the twentieth century had initially assumed that, prior to industrialization, Western European family life generally resembled family life in other non-industrial societies. Historical Europe was assumed to be characterized by young and universal marriage, extended family households, and a lack of control over fertility within marriage (Thornton 2005; Wrigley 1998). The demographic transition framework suggested that the Industrial Revolution had occasioned the rise of the nuclear family in Western Europe, which was accompanied by later and less-universal marriage, and had triggered control of fertility within marriage, which was accomplished by the cessation of childbearing after a desired family size had been reached, referred to as "stopping."

Early research in historical demography challenged each of these foundational assumptions. When historical demographers turned their attention to Asia, research there also disrupted the assumptions of conjectural history and demographic transition. The seemingly bright line between past and present faded as historical demographers found unexpected continuities across time and unexpected differences across the geographical terrain of the past. This section of our chapter details some of the most important findings in historical demography over the last 60 years. Its geographic focus is on Europe and European-origin societies in North America, though it also discusses research on the historical demography of East Asia and comparative research.

Marriage and Family Structure

The first assumption about the history of Europe that was challenged by early work in historical demography was that the nuclear family typical of Northwestern Europe, together with its characteristic late age at marriage and relatively high proportions of people never marrying, was a product of industrialization. Early historical demographers expected to find that, prior to industrialization, European families had looked more like the extended family households found throughout the rest of the world in the mid-twentieth century (Thornton 2005). This assumption was dispatched by two studies published in 1965. Peter Laslett (1965) demonstrated that typical English households prior to industrialization contained only a single nuclear family, namely a married couple and their unmarried children, just as they did in Laslett's own time. John Hajnal (1965) identified a distinctive "European marriage pattern" characterized by late marriage and a high proportion not marrying. He found that the pattern had been in place at least as far back as the mid-eighteenth century west of an imaginary line from Leningrad to Trieste. Hajnal (1983: 69) later described this pattern of late marriage as part of a "north-west European simple household system" in which a couple took charge of its own household after marriage, referred to as neolocal marriage. He contrasted it with the multigenerational joint household systems that were more common everywhere else in the world.

Subsequent research on societies at the edges of Northwestern Europe found that late marriage was not a necessary feature of neolocal marriage systems. In North America, where nuclear families were also the predominant household form, but where land and other opportunities were more readily available than in Europe during the eighteenth and nineteenth centuries, age at marriage and proportions never marrying were lower (Haines 1996; Smith 1993). Within Europe, societies practicing partible inheritance also had earlier and more universal marriage (Reher 1991), as did some families participating in proto-industrial rural manufacturing (Braun 1978; Fischer 1973; Gutmann and Leboutte 1984; Levine 1976, 1977; Medick 1976; Mendels 1972). These findings, together with research on the institution of life-cycle servanthood (Laslett 1977b), suggested that, within the neolocal family system, marriage was regulated by economic circumstances and was an important mechanism for controlling fertility and maintaining a balance between population and resources (Laslett 1977b; Wrigley and Schofield 1981). Scholars continue

to debate whether late marriage and high rates of non-marriage contributed to Europe's economic growth and industrialization in the eighteenth and nineteenth centuries (Dennison and Ogilvie 2014; Laslett 1988).

When Hajnal wrote about the European marriage pattern in 1965, he noted that it was beginning to erode, with marriage becoming earlier and more universal. While Hajnal's observation could be attributed to greater resource availability, indicating that the relationship between marriage and economic opportunity remained in place, more recent research has suggested that nuptiality became less closely connected to economic constraints around the middle of the nineteenth century. On the one hand, the second half of the nineteenth century saw late marriage and high rates of non-marriage in parts of Europe where it was not economically necessary (Alter 1991; Guinnane 1991; Kertzer and Hogan 1991). On the other hand, in Belgium and the Netherlands, where age at marriage fell in tandem with expanding economic opportunities, a growing trend toward age homogamy between spouses suggests that marriage was increasingly driven by affective rather than economic considerations (Van de Putte et al. 2009).

More recent research on family structure has complicated findings by Laslett and others that the nuclear family was the typical household form in Europe throughout the historical record. Lutz Berkner (1972) argued that households must be understood as having developmental cycles that are driven by the life cycles of the individuals and families that comprise them. He demonstrated that a stem family system, in which one child inherits the parental household in order to perpetuate it, can appear in cross-sectional data as a nuclear family system, especially in high-mortality societies where the amount of time during which the parents of a married child would remain alive in a household is necessarily short. That is, even in a society where a complex family form predominates, at any given time most people may be living in nuclear-family households. This observation inspired a wave of research on stem family systems, which have been found in mountainous agricultural regions throughout Europe and Japan in the eighteenth and nineteenth centuries (Fauve-Chamoux 2006; Saito 2000). These works identified considerable variety in the stem family form over space and time, suggesting that stem family systems were able to adapt to changing circumstances in order to promote the continuation of the system itself and the families within it (Fauve-Chamoux and Ochiai 2009).

Attention to the family as a process has inspired scholars to identify alternatives to analysis of cross-sectional data at the household level. Ruggles (2009, 2010) has used cross-sectional data at the individual level to compare the living arrangements of the elderly across historical and contemporary societies, arguing that it is from the perspective of the elderly that nuclear, stem, and joint families look the most different. He found that, after controlling for demographic structure and the proportion of the population working in agriculture, nineteenth-century elderly Northwestern Europeans and North Americans were no less likely to live in stem families than were the elderly in other parts of the world, but they were less likely to live in joint families (Ruggles 2009, 2010). Subsequent research using the same methods has identified a higher proportion of elderly in joint families in historical Eastern Europe (Gruber and Szołtysek 2012). Research using longitudinal data has examined the processes by which people move into and out of households, demonstrating that such processes are often jointly determined by multiple household members. A comparative study of marriage in Québec and Flanders at the turn of the twentieth century uncovered evidence of parental and sibling influence on marriage (Caron et al. 2017). Research on the United States in the late twentieth century indicates the dominant role of children's life-cycle processes in determining the living arrangements of their mothers (Merchant et al. 2012).

Fertility

Early research in historical demography demonstrated that the typical family structure and the age and incidence of marriage in

Northwestern Europe had not changed much over the preceding centuries. It was clear from recent data, however, that fertility within marriage had declined dramatically. Understanding the decline of marital fertility in the West was a significant concern of early research on historical populations. It was a particular focus of scholars who hoped to use the experience of fertility decline there as a model for policies that would lead to fertility decline elsewhere in the world (Merchant 2015; Thornton 2005). That early research demonstrated that most of the decline in fertility took place during or after the second half of the nineteenth century, but it also identified early precursors, especially such elite populations as the Genevan bourgeoisie (Henry 1956), the English aristocracy (Hollingsworth 1957, 1964), and some regional French populations in the southwest (Henry 1972). The limited number of cases available for study led to some potentially problematic results, including the attribution by Wrigley (1966a) of early fertility control in the English village of Colyton, a conclusion that is now less credible (Wrigley et al. 1997).

The second assumption about the history of Europe that was challenged by early research in historical demography was that the recently observed decline in marital fertility was a direct consequence of modernization, as proposed by demographic transition theory. In the 1960s, Princeton University demographer Ansley Coale, together with a team of experts on the various countries of Europe, set out to test demographic transition theory by identifying the correlates of aggregate marital fertility at the subnational level. Those involved with the Princeton European Fertility Project aimed to find the structural conditions under which married couples could be expected to adopt available contraceptive technologies. This large research project produced a series of monographs on the history of fertility decline in the various countries of Europe (Coale et al. 1979; Knodel 1974; Lesthaeghe 1977; Livi Bacci 1971, 1977; Teitelbaum 1984; van de Walle 1974) and a summary volume (Coale and Watkins 1986). Its cross-national analyses focused on the factors that could be identified in each country, namely, industrialization, urbanization, and literacy. Coale and his colleagues (1967) failed to find consistent correlations between those variables and marital fertility. They were also unable to identify threshold values of those variables below which it was not possible to observe a sustained decline in marital fertility (van de Walle and Knodel 1967). Coale (1973) concluded that modernization was a sufficient but not necessary condition to effect a decline in marital fertility, and that available contraceptive technologies could be adopted in any society as long as potential users believed that it was possible, acceptable, and advantageous to plan their fertility.

The Princeton European Fertility Project also pioneered the use of choropleth maps to illustrate social change moving across space over time. Mapping levels of fertility and the timing of fertility decline allowed Coale and his colleagues to identify spatial patterns that may have gone unnoticed if they had arranged their data only in alphabetic tables. The maps demonstrated that neighboring provinces had similar levels of fertility and experienced fertility transition in close temporal proximity, with the boundaries between fertility regimes corresponding to linguistic and religious boundaries. These maps and more formal tests of spatial relationships suggested that the widespread decline in marital fertility may have occurred through the spread of information, not just about contraceptive technology, but of the very idea that the number and timing of births could be planned (Coale and Watkins 1986). These findings suggested to contemporary advocates of family planning programs in high-fertility countries that such programs could succeed in advance of modernization (Knodel and van de Walle 1979). They inspired further research in historical demography on the processes that led individuals to adopt fertility control (Davey 1988; Fisher 2000; Fisher and Szreter 2003; Gauvreau and Gossage 1997; Gervais and Gauvreau 2003; McLaren 1978; Szreter and Fisher 2010a, b; Watkins and Danzi 1995) and research on the spatial diffusion of demographic behaviors more broadly (Haines and Hacker 2011; Schmertmann et al. 2011).

The third assumption about the demographic history of Europe that was challenged by early research in historical demography was that, when couples began to control the size of their families, they did so by employing contraceptive practices only after a target family size had been reached. Historical demographers refer to this practice as "stopping" behavior because the couple stops having any more children at that time. The alternative to stopping is "spacing," or increasing the length of the interval between one birth and the next, either to control completed family size or simply to put off a birth. The assumption that stopping was the predominant form of deliberate fertility control was difficult to challenge because it was baked into quantitative indicators of fertility control within a society, which have focused on the shape of the curve of age-specific (female) marital fertility rates.

Some of the first genealogical and family reconstitution studies of the 1950s aimed to understand the dynamics of uncontrolled fertility, and therefore examined societies that were thought not to have limited fertility within marriage in any way (Gautier and Henry 1958; Henripin 1954a, b; Henry 1956). Comparisons with other historical studies on Europe and contemporary studies in Asia, Africa, and the Middle East demonstrated that in few societies if any, historical or contemporary, did fertility reach its biological potential. Henry (1961) therefore adopted the term "natural fertility" to refer to fertility that was not necessarily uncontrolled but was not subject to parity-specific control. That is, natural fertility was fertility unmarked by stopping behavior. Non-parity-specific control was expected to operate at the level of the society rather than at that of the couple, through social norms regarding such behaviors as breastfeeding and the resumption of intercourse after childbirth. Henry recognized that the spacing of births was not determined solely by biological factors, but he assumed it was not determined by parental efforts to control the number or timing of births, with the possible exception of an accidental final birth after a couple had decided to stop bearing children.

Coale and Trussell (1974) formalized the concept of natural fertility by developing a set of model fertility schedules and two parameters that specify the pattern of female age-specific marital fertility within a population: M measures the overall level of fertility in the natural-fertility population that corresponds to the observed population; m measures the degree to which the pattern of age-specific fertility deviates from the corresponding natural-fertility population, reflecting parity-specific fertility control that takes the form of an early cessation of childbearing. Simulation studies have found that m is more sensitive to changes in the prevalence and effectiveness of fertility control in populations where the level of control is already high. Therefore, while high levels of m can be taken as evidence of fertility control, low levels of m cannot be interpreted as evidence of the absence of control (Okun 1994). Analogous to Henry's concept of natural fertility (Wilson et al. 1988), the Coale and Trussell model assumes that any deliberate fertility control will take the form of stopping and will show up in the curve of age-specific marital fertility rates. Because deliberate fertility control has been formalized in this way, detecting spacing in the historical record required the development of alternative measures that take into account the length of birth intervals as well as maternal age (Anderton and Bean 1985; Okun 1995).

Most of the research about fertility reported thus far made use of aggregate-level measures, meaning that the experiences of multiple families were added together and analyzed, even when the research was based on individual-level data. In the last three decades, however, the increasing availability and falling costs of computational power and the concomitant development of multivariate methods for analyzing individual-level longitudinal data have re-opened some of these questions.

In the study of fertility, event-history analysis has proven particularly useful in identifying individual-level determinants of fertility. This research was facilitated by the development of methods for using population registers, described earlier, and produced new insights into the details of reproductive behavior (Alter 1988; Gutmann

and Alter 1993; Gutmann and Fliess 1993; Gutmann and Watkins 1990). This type of analysis has become very useful for solving some of the most difficult problems in the study of fertility, such as the detection of spacing as a means of family-size limitation (Kolk 2011) and the deliberate control of individual fertility in populations that do not display aggregate-level evidence of stopping (Bengtsson and Dribe 2006; Rettaroli and Scalone 2012).

These new approaches have led historical demographers to conclude that deliberate control over a couple's fertility was not limited to stopping. Rather, couples also spaced births deliberately, sometimes with the intention of limiting their completed family size, and sometimes to defer the costs of another mouth to feed (Friedlander et al. 1999). Beyond early work that drew these conclusions for Germany, the western United States, and Canada (Anderton and Bean 1985; Gauvreau and Gossage 1997, 2001; Knodel 1987), more recent research on Sweden (Bengtsson and Dribe 2006; Kolk 2011) has documented spacing behavior as a mechanism by which couples delayed a birth when they experienced difficult economic or environmental circumstances. An important additional conclusion is that this spacing may result in lower overall fertility, even when that was not the intention of the couples involved, because of the large amount of uncertainly that they constantly experienced with high levels of infant and child mortality and large variations in income and overall economic conditions (Bengtsson and Bröstrom 2011).

Recent research in historical demography has also found that experiences that expose migrants to new attitudes about childbearing and fertility control lead to lower fertility (Moreels and Vandezande 2012; Quaranta 2011). Another important area of new findings reflects the influence of household composition, nearby families, and the characteristics of previous generations on fertility, with results showing that nearby mothers-in-law increase fertility (Hacker and Roberts 2017; Rotering and Bras 2015), and that the daughters of higher-fertility mothers have higher fertility than those with lower-fertility mothers (Jennings et al. 2012; Reher et al. 2008).

Mortality

Early research in historical demography strongly focused on fertility, in part because mid-twentieth century historical demographers believed that understanding historical population change could inform contemporary policies designed to reduce population growth around the world (Merchant 2015; Thornton 2005). Less work was done on mortality. Some of the most important early studies, largely in parallel with Henry's work on fertility, focused on the role of economic, environmental, political, and military crises in Europe under the *Ancien Régime*, and their impact on mortality. Here, the pioneering work was led by Jean Meuvret (1946, 1965), whose studies informed much of the *Annales*-school social history of the 1950s, 1960s, and 1970s (Goubert 1960; Grantham 1989). It showed the importance of these shocks for limiting population growth prior to the transformation of industry and agriculture in the eighteenth and nineteenth centuries. Even in the presence of the preventive check of early fertility control through late marriage, Malthus's positive checks were still in play. This work has continued to inform historical demographic research since the 1980s, with extensive research exploring the details of the relationships, especially between famine and mortality (Bengtsson and Bröstrom 2011; Dobson 1997; Lachiver 1991; Lappalainen 2014; Ó Gráda and Chevet 2002).

One of the implications of the work on demographic crises was the realization that mortality had declined dramatically in Europe since the eighteenth century, and that advances in the medical field had little to do with that decline (Habakkuk 1953; McKeown 1976; McKeown and Brown 1955). Nonetheless, the causes of long-term mortality decline remained elusive despite vigorous debate, with potential explanations including changes in nutrition, housing, income, urbanization, working conditions, child-care practices, hygiene and sanitation, and even

changes in the virulence of specific diseases (Fogel 2004; Schofield et al. 1991). Valuable work by Omran (1971) demonstrated that mortality decline, both in Europe and in other parts of the world, was accompanied by a shift in the causes of morbidity and mortality from infectious to chronic disease. Alter and Riley (1989) subsequently demonstrated that lower levels of mortality can produce higher levels of morbidity through the mechanism of frailty. Individuals who live longer may do so while experiencing reduced resistance to disease and accident.

Research on mortality in the United States suggested that industrialization was associated with an increase in mortality in the first half of the nineteenth century, and that mortality rates did not begin a sustained decline until the end of the century (Hacker 2010; Preston and Haines 1991; Vinovskis 1972; Wells 1995). Studies of cities and industrial towns in the Northeast have suggested that, even after sewer and water systems curtailed epidemics, infectious disease mortality remained high in areas experiencing rapid urbanization and resultant crowding (Beemer et al. 2005; Haines 2001; Hautaniemi et al. 1999; Leonard et al. 2015). Work on the history of mortality in Britain and Ireland shows patterns that echo those revealed for the United States, especially the importance of the environmental and social context for determining levels of mortality. The ability to link highly-detailed demographic data with equally detailed data about the spatial environment allowed researchers to confirm predicted links between coal smoke and higher infant, childhood, and adult mortality (Beach and Hanlon Forthcoming; Jaadla and Reid 2017). Such linkage has also facilitated analysis of the relationship between social conditions, religion, and child mortality. The high mortality of Catholics in Dublin was thus explained by their poverty, but the low mortality of Jewish children was unexplainable by environmental conditions (Connor 2017).

The availability of individual-level longitudinal data and event-history analyses have provided new opportunities to examine mortality in other ways, often focusing on the impact of conditions earlier in life on later mortality, rather than only focusing on the lived experience at the time of death. Among the important conclusions that researchers have drawn are the finding that hardship and poor living conditions early in life significantly reduce life expectancy later (Alter and Oris 2005; Donrovich et al. 2014; Ferrie and Rolf 2011; Gagnon and Bohnert 2012; Quaranta 2014; Smith et al. 2009) and that women who have more children face higher mortality risks, at least under certain social conditions, though a later age at last birth, which may correlate with higher parity, can reflect slower aging and lower risk of mortality (Dribe 2004; Gagnon et al. 2009; Smith et al. 2002).

Migration

Migration also has not received much research attention by historical demographers, in part because data have been hard to come by, and in part because migration is difficult to model. One of the earliest contributions of mid-twentieth century historical population studies was the realization that an older perception of static historical populations could not be substantiated. Rather, many historical populations consisted of individuals and families who moved frequently. This was obvious for immigrant-rich societies like the United States (Knights 1971, 1991; Prest 1976; Thernstrom 1964), and for European communities with large numbers of servants. But this also turned out to be true for other pre-industrial European communities (Laslett 1977a). For instance, genealogical studies of the U.S. North, which followed individuals and families from town to town, have demonstrated that migration was more prevalent than studies of single localities suggest (Adams and Kasakoff 1984).

As researchers learned more about migration, they began to analyze and explore the relationship between migration and other vital events, such as mortality (Alter and Oris 2005; Kasakoff and Adams 2000), fertility (Moreels and Vandezande 2012; Quaranta 2011), and marriage (Ekamper et al. 2011; Puschmann et al. 2014, 2017). Most of this research has focused on Europe, facilitated

by the existence of population registers and individual-level longitudinal data sets that document migration along with other vital events. Some recent works have made creative use of high-density individual-level samples and linked samples to explore questions about the stimulus to migration among immigrants from Europe at the turn of the twentieth century (Abramitzky et al. 2012), the destinations of black and white migrants during the Great Migration out of the South in the mid-twentieth century (Collins and Wanamaker 2015), emigration of Mexican immigrants and their American-born children to Mexico during the 1930s (Gratton and Merchant 2013), and internal migration during the same decade (Barreca et al. 2012; Boustan et al. 2010; Fishback et al. 2006; Gutmann et al. 2016).

Migration is an important component of historical research on the relationship between population and the natural environment, a relatively new area of historical demography. Research in this area has explored several aspects of the reciprocal influence between population and environment: how population has shaped the environment and how the environment has influenced demographic processes (Gutmann 2018). Migration is one of the most obvious mechanisms of this relationship. In the Great Plains of the United States, the environment influenced where European-origin people settled (Gutmann et al. 2011), how they formed families (Gutmann et al. 2012) and how they farmed (Leonard et al. 2010). But their settlement patterns changed the environment as well, contributing to the dust storms of the 1930s, which spurred large-scale migration away from the area (Deane and Gutmann 2003), changing its demographic profile as population swelled in cities and dwindled in rural areas (Leonard and Gutmann 2005), even as these areas increasingly drew migrants seeking recreational amenities (Gutmann et al. 2005). Research on other parts of the world has also examined historical instances of migration in response to climate variability, environmental crises, and natural disasters (Boustan et al. 2012; Jennings and Gray 2015; Kurosu et al. 2010).

Asia

Research in historical demography initially focused on Europe because the history of population in Europe was thought to hold the key for understanding the future of population in the rest of the world. Malthus (1826) had previously described two types of demographic regimes: one typified by England and characterized by a preventive check operating through delayed marriage; and another typified by China and characterized by a positive check operating through high mortality, together with high rates of "vice" and "misery." Mid-twentieth century demographers in the United States and Western Europe had understood these two regimes as post-transitional and pre-transitional. The countries of Western Europe, North America, and Oceania represented the "after" scenario, while the countries of Asia, Africa, and Latin America represented the "before" scenario. By the mid-1960s, however, it was clear that Japan was in the midst of a demographic transition. Rapidly declining fertility sparked the interest of scholars in understanding the factors that were bringing fertility down in Japan, and how the new demographic regime differed from demographic regimes of the past. Akira Hayami was the first to apply the methods of family reconstitution to Japanese population registers from the Tokugawa period, initiating a groundswell of research on the micro-level determinants of population change (Cornell and Hayami 1986).

Research on the Japanese population challenged Malthusian understandings of the eighteenth century as having been characterized by widespread poverty and uncontrolled mortality, which kept population stationary. The new interpretation suggested that eighteenth-century couples deliberately controlled their fertility through abortion and infanticide in order to improve their standards of living, producing levels of marital fertility lower than those found in pre-industrial Europe (Drixler 2013; Hanley 1972, 1974; Kurosu 2002; Mosk 1979; Saito 1992; Smith 1977). Utilizing event-history analysis with population registers from two farming

villages in northeastern Japan in the eighteenth and nineteenth centuries, Tsuya and Kurosu (2010) found evidence of widespread use of parity-specific and sex-specific infanticide to produce a small and sex-balanced set of children, with a preference for a daughter first and then two sons. These findings were confirmed and extended to a broader region of Eastern Japan using own-child methods to estimate cross-sectional fertility in a sample of 3300 population registers (Drixler 2013). Drixler (2013) documented the culture surrounding the family limitation practices of abortion, infanticide, and neglect in the eighteenth century, which produced net reproduction rates below 1.0, and the dramatic shift away from these practices in the nineteenth century, spurred by government efforts to increase population size, which raised net reproduction rates above 2.0 in the 1920s. He contended that this shift amounts to a reverse demographic transition, with marital fertility rising during a period of modernization, countering not only the Malthusian dichotomy between East and West, but also the tenet of demographic transition theory that vital rates generally change in only one direction.

Historical studies of China suggest that, there too, demographic regimes in the past were much more complex and less famine-driven than Malthus had described. They were also different from those in Japan, particularly in terms of household structure (Hanley and Wolf 1985). Using population registers from Liaoning province, James Lee, Wang Feng, and Cameron Campbell elaborated the demographic system of eighteenth- and nineteenth-century China, which was characterized by female infanticide, late marriage and high rates of non-marriage for men, low marital fertility, and high rates of adoption (Lee and Campbell 1997; Lee and Feng 1999). These practices allowed families to adapt to economic circumstances, preventing excessive mortality, even as population grew in the aggregate between the eighteenth and twentieth centuries. Although historical demographers have generally agreed that marital fertility in China was low, some have challenged the contention that it was deliberately controlled in parity-specific ways, with analysts at times coming to different conclusions on the basis of the same evidence (Engelen 2006). However, a recent re-analysis of data from the Qing Imperial Lineage using discrete-time event history models with random and fixed effects has shown that, after controlling for unobserved heterogeneity between couples, the likelihood of having another child differed according to the number and sex-composition of children a couple already had. This finding indicates that, at least in this subset of the population, some couples were practicing parity-specific fertility control (Campbell and Lee 2010). In an important difference from western populations, reproductive decision-making in historical China occurred at the level of the extended family rather than that of the conjugal family; in the second half of the twentieth century, the state began to play a role in that collective decision-making process (Lee and Feng 1999). The history of demographic change in China therefore challenges the idea that fertility transition must be driven by individual autonomy in the realm of childbearing.

Comparative Research

Much of the scholarship on the historical demography of East Asia has drawn implicit comparisons with Western Europe. There is also a large literature that is explicitly comparative. The earliest comparative works focused on family structure, adding nuance to the Hajnal hypothesis by expanding the geographic scope of analysis (Fauve-Chamoux and Ochiai 2009; Laslett and Wall 1972; Van Poppel et al. 2004). In the early 2000s, two separate groups of historical demographers launched attempts at more comprehensive, as well as more direct and coordinated, comparisons.

"Population and Society in Taiwan and the Netherlands," or "Life at the Extremes," is a collaboration among scholars in the Netherlands, Taiwan, and the United States that has explored differences between Taiwan during the Japanese colonial period (1895–1945) and the Netherlands between 1850 and 1920, with regard to marriage and family systems (Engelen and Wolf 2005),

fertility (Chuang et al. 2006; Engelen and Hsieh 2007), and mortality (Engelen et al. 2011). During these periods, the two societies exhibited similar economic characteristics and similar crude vital rates. Population stocks and flows were recorded in detail by household registers in both places. Both societies exhibited childbearing practices that meet Henry's definition of natural fertility but were in the midst of modernization during the period of study. These volumes focus on the differences between the Netherlands and Taiwan as representative of the differences between European and Asian demographic systems during periods of rapid social, economic, and demographic change. They emphasize broad theoretical frameworks that explain outcomes in both places, even when those outcomes diverge. The authors attribute differences in household structure to differences in parental authority, which was backed by the state in Taiwan and weakened by the Church in the Netherlands. They conclude that patriarchy in Taiwan and the Church in the Netherlands generated institutional pressures for high levels of childbearing that resulted in elevated infant and maternal mortality in both places into the early twentieth century, despite growing state efforts to curtail mortality.

The "Eurasian Population and Family History Project" explores variation within Europe and within Asia, and similarity between Europe and Asia, in addition to differences between the two continents, focusing on the 150 years prior to 1900. The research makes use of individual-level event history methods to analyze eighteenth- and nineteenth-century population register data from 100 communities in eastern Belgium, northeastern China, northern Italy, northeastern Japan, and southern Sweden. In order to explicitly test Malthusian models, the group's questions focus on demographic responses to economic conditions, explored through nearly identical analyses of data for each country. Separate volumes examine mortality (Bengtsson et al. 2004), fertility (Tsuya et al. 2010), and nuptiality (Lundh and Kurosu 2014). This program of research has demonstrated that societies and households almost everywhere adopted demographic strategies to cope with short-term economic stress, and that these strategies produced locally distinctive age-, sex-, and class-specific patterns of mortality, fertility, and marriage. Researchers identified distinctions between Europe and Asia, but these were not as simple as the dichotomy proposed by Malthus between a system regulated by nuptiality, i.e., a preventive check, on one side and one regulated by mortality, i.e., a positive check, on the other. Rather, they found that demographic outcomes depended strongly on one's position in society, as defined by property, in Europe, and on one's position within the household in Asia. The Eurasian Population and Family History Project also identified commonalities between Europe and Asia. Across the entire study area, demographic processes were deliberately controlled, though that agency was more passive in the realm of mortality and active in the realm of fertility and nuptiality (Lundh and Kurosu 2014).

Historical demographers working on East Asia have recently called for a turn toward comparisons within the continent, and even within specific countries, rather than between Asia and Europe, and a focus on the topics that are unique to Asia, such as the influence of family on individual experience and the diversity of household structure, including such mechanisms of family formation as adoption (Campbell and Kurosu 2017). Migration in Asian populations has also become an important topic in the last decade, facilitated by the increasing availability of individual-level data from household registers in parts of China, Japan, and Korea (Campbell 2013).

Conclusion

Research in historical demography since the mid-1950s complicated demographers' understanding of geographical difference and historical change. In so doing, it produced a wealth of information about population in the last three centuries, particularly in Western Europe, North America, and East Asia. Although much of the population data available for the past pertain to limited time periods and geographical areas,

scholars have used these data to build surveys of long-term national and regional demographic histories about a number of places, including England (Lee 2006; Wrigley et al. 1997; Wrigley and Schofield 1981), France (Dupâquier and Bardet 1988; Henry and Blayo 1975), China (Lee and Feng 1999), and North America (Haines and Steckel 2000).

Yet historical demography's topical, geographic, and temporal coverage remains uneven. We know more about marriage, household structure, and fertility than about mortality and migration. Northwest Europe, North America, and East Asia have been studied in the greatest detail. Less studied are the edges of these regions, i.e., Southern and Eastern Europe, Latin America (McCaa 2000, 2003), South and Southeast Asia (Das Gupta 1995; Doeppers and Xenos 1998; Drixler and Kok 2016; Dyson 1998; Owen 1987; Williams and Guest 2012), and Africa (Walters 2016). This unevenness reflects the issue of data unavailability, as well as the path dependency of the field. Once a database is created and made available to researchers, the number of studies on the time and place represented by that database will increase rapidly.

The history of historical demography has been driven by the following three factors working together: (1) the collection of quantitative raw materials; (2) the development of methods for managing and analyzing those materials; and (3) the production of theories and substantive knowledge about population change in the past. What we know about historical demographic regimes has always been limited to what our data and methods can tell us. But learning more about the substance of the past has also inspired new approaches for gleaning information that was previously out of reach. Historical demography has pushed the time horizon for population studies back to the eighteenth century. While the more distant past remains relatively unknown, recent work suggests that techniques from archaeology and paleontology may allow demographers to unlock information from new sources, just as they did with parish registers 60 years ago (Barbiera and Dalla-Zuanna 2009; Hoppa and Vaupel 2008).

If the founding assumptions of historical demography had proven correct, the field's task might be complete by now. If early studies had found that demographic regimes in the past were uniformly dominated by early and universal marriage and high and uncontrolled fertility and mortality, and that a universal process of modernization predictably changed family structures and brought fertility and mortality under control, we might by now know all we need to know about the past. Instead, we have learned that demographic processes in the past, although ultimately limited by universal human biology, were as varied as were the social, political, and economic structures that mediated them.

References

Abramitzky, R., Boustan, L. P., & Eriksson, K. (2012). Europe's tired, poor, huddled masses: Self-selection and economic outcomes in the age of mass migration. *American Economic Review, 102*(5), 1832–1856.

Adams, J. W., & Kasakoff, A. B. (1980). Migration at marriage in colonial New England: A comparison of rates derived from genealogies with rates from vital records. In B. Dyke & W. Morrill (Eds.), *Genealogical demography* (pp. 115–138). New York: Academic Press.

Adams, J. W., & Kasakoff, A. B. (1984). Migration and the family in colonial New England: The view from genealogies. *Journal of Family History, 9*(1), 24–43.

Alter, G. C. (1988). *Family and the female life course: The women of Verviers, Belgium, 1849–1880*. Madison: University of Wisconsin Press.

Alter, G. C. (1991). New perspectives on European marriage in the nineteenth century. *Journal of Family History, 16*(1), 1–5.

Alter, G. C., Mandemakers, K., & Gutmann, M. P. (2009). Defining and distributing longitudinal historical data in a general way through an intermediate structure. *Historical Social Research / Historische Sozialforschung, 34*(3), 78–114.

Alter, G. C., & Oris, M. (2005). Childhood conditions, migration, and mortality: Migrants and natives in 19th-century cities. *Social Biology, 52*(3–4), 178–191.

Alter, G. C., & Riley, J. C. (1989). Frailty, sickness, and death: Models of morbidity and mortality in historical populations. *Population Studies, 43*(1), 25–45.

Alterman, H. (1969). *Counting people: The census in history*. New York: Harcourt, Brace & World.

Anderson, M. J. (2015). *The American census: A social history* (Second ed.). New Haven: Yale University Press.

Anderton, D. L., & Bean, L. L. (1985). Birth spacing and fertility limitation: A behavioral analysis of a nineteenth century frontier population. *Demography, 22*(2), 169–183.

Bailey, M., Cole, C., Henderson, M., & Massey, C. (2017). How well do automated methods perform in historical samples? Evidence from new ground truth. *National Bureau of Economic Research Working Paper Series, No. 24019*.

Barbiera, I., & Dalla-Zuanna, G. (2009). Population dynamics in Italy in the Middle Ages: New insights from archaeological findings. *Population and Development Review, 35*(2), 367–389.

Barreca, A. I., Fishback, P. V., & Kantor, S. (2012). Agricultural policy, migration, and malaria in the United States in the 1930s. *Explorations in Economic History, 49*(4), 381–398.

Beach, B., & Hanlon, W. W. (Forthcoming). Coal smoke and mortality in an early industrial economy. *The Economic Journal*.

Bean, L. L., May, D. L., & Skolnick, M. (1978). The Mormon historical demography project. *Historical Methods: A Journal of Quantitative and Interdisciplinary History, 11*(1), 45–53.

Bean, L. L., Mineau, G. P., & Anderton, D. L. (1990). *Fertility change on the American frontier: Adaptation and innovation*. Berkeley: University of California Press.

Beemer, J. K., Anderton, D. L., & Leonard, S. H. (2005). Sewers in the city: A case study of individual-level mortality and public health initiatives in Northampton, Massachusetts, at the turn of the century. *Journal of the History of Medicine and Allied Sciences, 60*(1), 42–72.

Bengtsson, T., & Bröstrom, G. (2011). Famines and mortality crises in 18th to 19th century southern Sweden. *Genus, 67*(2), 119–139.

Bengtsson, T., Campbell, C., & Lee, J. Z. (2004). *Life under pressure: Mortality and living standards in Europe and Asia, 1700–1900*. Cambridge, MA: MIT Press.

Bengtsson, T., & Dribe, M. (1997). *Economy and demography in western Scania, Sweden, 1650–1900*. Eurasia Project on Population and Family History Working Paper Series. Kyoto: International Research Center for Japanese Studies. Retrieved from http://lup.lub.lu.se/record/1386401

Bengtsson, T., & Dribe, M. (2006). Deliberate control in a natural fertility population: Southern Sweden, 1766–1864. *Demography, 43*(4), 727–746.

Berkner, L. K. (1972). The stem family and the developmental cycle of the peasant household: An eighteenth-century Austrian example. *The American Historical Review, 77*(2), 398–418.

Blayo, Y. (1975). Le mouvement naturel de la population française de 1740 à 1860. *Population*(numéro spécial), 15–64.

Bloothooft, G., Christen, P., Mandemakers, K., & Schraagen, M. (Eds.). (2015). *Population reconstruction*. Bern: Springer.

Bouchard, G. (1992). Current issues and new prospects for computerized record linkage in the province of Québec. *Historical Methods: A Journal of Quantitative and Interdisciplinary History, 25*(2), 67–73.

Bourdelais, P. (2004). The French population censuses: Purposes and uses during the 17th, 18th and 19th centuries. *The History of the Family, 9*(1), 97–113.

Bourdieu, J., Kesztenbaum, L., & Postel-Vinay, G. (2014). L'enquête TRA, une matrice d'histoire. *Population, 69*(2), 217–248.

Boustan, L. P., Fishback, P. V., & Kantor, S. (2010). The effect of internal migration on local labor markets: American cities during the Great Depression. *Journal of Labor Economics, 28*(4), 719–746.

Boustan, L. P., Kahn, M. E., & Rhode, P. W. (2012). Moving to higher ground: Migration response to natural disasters in the early twentieth century. *The American Economic Review, 102*(3), 238–244.

Brass, W., Coale, A. J., Demeny, P., Heisel, D. F., Lorimer, F., Romaniuk, A., & van de Walle, E. (1968). *The demography of tropical Africa*. Princeton: Princeton University Press.

Braun, R. (1978). Early industrializaton and demographic change in the canton of Zurich. In C. Tilly (Ed.), *Historical studies of changing fertility* (pp. 289–334). Princeton: Princeton University Press.

Brownlee, J. (1915). The history of the birth and death rates in England and Wales taken as a whole, from 1570 to the present time. *Public Health, 29*, 211–222.

Campbell, C. (2013). Migration in historical East Asia: New sources and new methods. *History of the Family, 18*(4), 371–377.

Campbell, C., & Kurosu, S. (2017). Asian historical demography. In Z. Zhao & A. C. Hayes (Eds.), *Routledge handbook of Asian demography* (pp. 75–93). London: Routledge.

Campbell, C., Kurosu, S., Manfredini, M., Neven, M., & Bengtsson, T. (2004). Appendix: Sources and measures. In T. Bengtsson, C. Campbell, & J. Z. Lee (Eds.), *Life under pressure. Mortality and living standards in Europe and Asia, 1700–1900* (pp. 441–476). Cambridge, MA: MIT Press.

Campbell, C., & Lee, J. Z. (2010). Fertility control in historical China revisited: New methods for an old debate. *History of the Family, 15*(4), 370–385.

Caron, M., Neyrinck, W., Dillon, L. Y., & Matthijs, K. (2017). Sibling influence on access to marriage: A comparative study of Québec and Flanders, 1842–1912. *Journal of Family History, 42*(3), 271–307.

Charbonneau, H., Bates, R., & Boleda, M. (1993). *The first French Canadians: Pioneers in the St. Lawrence Valley*. Newark: University of Delaware Press.

Chuang, Y.-C., Engelen, T., & Wolf, A. P. (Eds.). (2006). *Positive or preventive? Reproduction in Taiwan and the Netherlands, 1850–1940*. Amsterdam: Aksant.

Coale, A. J. (1967). Factors associated with the development of low fertility: An historic summary. In *Proceedings of the World Population Conference*

1965, Volume II: Fertility, family planning, mortality (Vol. 2, pp. 205–209). New York: United Nations.

Coale, A. J. (1973). The demographic transition reconsidered. In *Proceedings of the International Population Conference, Liège, 1973* (pp. 53–57). Liège: International Union for the Scientific Study of Population.

Coale, A. J., Anderson, B. A., & Härm, E. (1979). *Human fertility in Russia since the nineteenth century*. Princeton: Princeton University Press.

Coale, A. J., & Demeny, P. (1966). *Regional model life tables and stable populations*. Princeton: Princeton University Press.

Coale, A. J., & Hoover, E. M. (1958). *Population growth and economic development in low-income countries: A case study of India's prospects*. Princeton: Princeton University Press.

Coale, A. J., & Trussell, T. J. (1974). Model fertility schedules: Variations in the age structure of childbearing in human populations. *Population Index, 40*(2), 185–258.

Coale, A. J., & Watkins, S. C. (Eds.). (1986). *The decline of fertility in Europe: The revised proceedings of a conference on the Princeton European Fertility Project*. Princeton: Princeton University Press.

Collins, W. J., & Wanamaker, M. H. (2015). The Great Migration in black and white: New evidence on the selection and sorting of southern migrants. *The Journal of Economic History, 75*(4), 947–992.

Connor, D. S. (2017). Poverty, religious differences, and child mortality in the early twentieth century: The case of Dublin. *Annals of the American Association of Geographers, 107*(3), 625–646.

Cornell, L. L., & Hayami, A. (1986). The Shūmon Aratamo Chō: Japan's population registers. *Journal of Family History, 11*(4), 311–328.

Cox, D. R. (1972). Regression models and life-tables. *Journal of the Royal Statistical Society. Series B (Methodological), 34*(2), 187–220.

Curtis, B. (2001). *The politics of population: State formation, statistics, and the census of Canada, 1840–1875*. Toronto: University of Toronto Press.

Das Gupta, M. (1995). Fertility decline in Punjab, India: Parallels with historical Europe. *Population Studies, 49*(3), 481–500.

Davey, C. (1988). Birth control in Britain during the interwar years: Evidence from the Stopes correspondence. *Journal of Family History, 13*(1), 329–345.

Davis, K. (1945). The world demographic transition. *The ANNALS of the American Academy of Political and Social Science, 237*, 1–11.

Deane, G. D., & Gutmann, M. P. (2003). Blowin' down the road: Investigating bilateral causality between dust storms and population in the Great Plains. *Population Research and Policy Review, 22*(4), 297–331.

Delsalle, P. (2009). *Histoires de familles: Les registres paroissiaux et l'état civil, du moyen âge à nos jours: Démographie et généalogie*. Besançon: Presses universitaires de Franche-Comté.

Dennison, T., & Ogilvie, S. (2014). Does the European marriage pattern explain economic growth? *The Journal of Economic History, 74*(3), 651–693.

Desjardins, B. (1999). Le registre de la population du Québec ancien. *Annales de Démographie Historique*, 215–226.

Dobson, M. J. (1997). *Contours of death and disease in early modern England*. Cambridge: Cambridge University Press.

Doeppers, D. F., & Xenos, P. (Eds.). (1998). *Population and history, the demographic origins of the modern Philippines*. Madison: Center for Southeast Asian Studies, University of Wisconsin.

Dong, H., Campbell, C., Kurosu, S., Yang, W., & Lee, J. Z. (2015). New sources for comparative social science: Historical population panel data from East Asia. *Demography, 52*(3), 1061–1088.

Donrovich, R., Puschmann, P., & Matthijs, K. (2014). Rivalry, solidarity, and longevity among siblings: A life course approach to the impact of sibship composition and birth order on later life mortality risk, Antwerp (1846–1920). *Demographic Research, 31*(38), 1167–1198.

Dribe, M. (2004). Long-term effects of childbearing on mortality: Evidence from pre-industrial Sweden. *Population Studies, 58*(3), 297–310.

Drixler, F. (2013). *Mabiki: Infanticide and population growth in eastern Japan, 1660–1950*. Berkeley, CA: University of California Press.

Drixler, F., & Kok, J. (2016). A lost family-planning regime in eighteenth-century Ceylon. *Population Studies, 70*(1), 93–114.

Dupâquier, J., & Bardet, J. P. (Eds.). (1988). *Histoire de la population française*. Paris: Presses Universitaires de France.

Dyson, T. (Ed.) (1998). *India's historical demography: Studies in famine, disease and society*. London: Curzon Press.

Edvinsson, S. (2000). The demographic data base at Umeå University: A resource for historical studies. In P. K. Hall, R. McCaa, & G. Thorvaldsen (Eds.), *Handbook of international historical microdata for population research* (pp. 231–249). Minneapolis, MN: Minnesota Population Center, University of Minnesota.

Ekamper, P., van Poppel, F., & Mandemakers, K. (2011). Widening horizons? The geography of the marriage market in nineteenth and early-twentieth century Netherlands. In M. P. Gutmann, G. D. Deane, E. R. Merchant, & K. M. Sylvester (Eds.), *Navigating time and space in population studies* (pp. 115–160). Dordrecht: Springer Netherlands.

Emigh, R. J., Riley, D. J., & Ahmed, P. (2016a). *Antecedents of censuses from medieval to nation states: How societies and states count*. Houndmills, UK: Palgrave Macmillan.

Emigh, R. J., Riley, D. J., & Ahmed, P. (2016b). *Changes in censuses from imperialist to welfare states: How societies and states count*. Houndmills, UK: Palgrave Macmillan.

Engelen, T. (2006). Low fertility in premodern China: Positive, preventive or proactive behaviour? *The History of the Family, 11*(3), 125–134.

Engelen, T., & Hsieh, Y.-H. (2007). *Two cities one life. The demography of Lu-Kang and Nijmegen, 1850–1945*: Amsterdam University Press.

Engelen, T., Shepherd, J. R., & Yang, W.-S. (Eds.). (2011). *Death at the opposite ends of the Eurasian continent: Mortality trends in Taiwan and the Netherlands, 1850–1945*. Amsterdam: Aksant.

Engelen, T., & Wolf, A. P. (Eds.). (2005). *Marriage and the family in Eurasia: Perspectives on the Hajnal hypothesis.* Amsterdam: Aksant.

Eversley, D. E. C. (1957). A survey of population in an area of Worcestershire from 1660–1850 on the basis of parish records. *Population Studies, 10*(3), 253–279.

Eversley, D. E. C. (1966). Exploitation of Anglican parish registers by aggregative analysis. In E. A. Wrigley (Ed.), *An introduction to English historical demography. From the sixteenth to the nineteenth centuries* (pp. 44–65). New York: Basic Books.

Fauve-Chamoux, A. (2006). Family reproduction and stem-family system: From Pyrenean valleys to Norwegian farms. *The History of the Family, 11*(3), 171–184.

Fauve-Chamoux, A., Bolovan, I., & Sogner, S. (Eds.). (2016). *A global history of historical demography. Half a century of interdisciplinarity*. Bern: Peter Lang.

Fauve-Chamoux, A., & Ochiai, E. (Eds.). (2009). *The stem family in Eurasian perspective: Revisiting house societies, 17th-20th centuries*. New York: Peter Lang.

Fernihough, A., Ó Gráda, C., & Walsh, B. M. (2015). Intermarriage in a divided society: Ireland a century ago. *Explorations in Economic History, 56*, 1–14.

Ferrie, J. (1996). A new sample of Americans linked from the 1850 public use micro sample of the federal census of population to the 1860 federal census manuscript schedules. *Historical Methods: A Journal of Quantitative and Interdisciplinary History, 29*, 141–156.

Ferrie, J., & Rolf, K. (2011). Socioeconomic status in childhood and health after age 70: A new longitudinal analysis for the U.S., 1895–2005. *Explorations in Economic History, 48*(4), 445–460.

Fischer, W. (1973). Rural industrialization and population change. *Comparative Studies in Society and History, 15*(2), 158–170.

Fishback, P. V., Horrace, W. C., & Kantor, S. (2006). The impact of New Deal expenditures on mobility during the Great Depression. *Explorations in Economic History, 43*(2), 179–222.

Fisher, K. (2000). Uncertain aims and tacit negotiation: Birth control practices in Britain, 1925–50. *Population and Development Review, 26*(2), 295–317.

Fisher, K., & Szreter, S. (2003). "They prefer withdrawal": The choice of birth control in Britain, 1918–1950. *The Journal of Interdisciplinary History, 34*(2), 263–291.

Fleury, M., & Henry, L. (1956). *Nouveau manuel de dépouillement et d'exploitation de l'état civil ancien*. Paris: INED.

Fogel, R. W. (1993). New sources and new techniques for the study of secular trends in nutritional status, health, mortality, and the process of aging. *Historical Methods: A Journal of Quantitative and Interdisciplinary History, 26*(1), 5–43.

Fogel, R. W. (2004). *The escape from hunger and premature death, 1700–2100*. Cambridge: Cambridge University Press.

Friedlander, D., Okun, B. S., & Segal, S. (1999). The demographic transition then and now: Processes, perspectives, and analyses. *Journal of Family History, 24*(4), 493–533.

Gagnon, A., & Bohnert, N. (2012). Early life socioeconomic conditions in rural areas and old-age mortality in twentieth-century Quebec. *Social Science & Medicine, 75*(8), 1497–1504.

Gagnon, A., Smith Ken, R., Tremblay, M., Vézina, H., Paré, P. P., & Desjardins, B. (2009). Is there a trade-off between fertility and longevity? A comparative study of women from three large historical databases accounting for mortality selection. *American Journal of Human Biology, 21*(4), 533–540.

Gautier, E., & Henry, L. (1958). *La population de Crulai, paroisse normande. Étude historique*. Paris: Presses Universitaires de France.

Gauvreau, D., & Gossage, P. (1997). "Empêcher la famille": Fécondité et contraception au Québec, 1920–60. *The Canadian Historical Review, 78*(3), 478.

Gauvreau, D., & Gossage, P. (2001). Canadian fertility transitions: Quebec and Ontario at the turn of the twentieth century. *Journal of Family History, 26*(2), 162–188.

Gervais, D., & Gauvreau, D. (2003). Women, priests, and physicians: Family limitation in Quebec, 1940–1970. *The Journal of Interdisciplinary History, 34*(2), 293–314.

Glass, D. V. (1968). Notes on the demography of London at the end of the seventeenth century. *Daedalus, 97*(2), 581–592.

Glass, D. V. (1973). *Numbering the people: The eighteenth-century population controversy and the development of census and vital statistics in Britain*. Farnborough: D. C. Heath.

Goubert, P. (1960). *Beauvais et le beauvaisis de 1600 à 1730*. Paris: S. E. V. P. E. N.

Goyer, D. S., & Draaijer, G. E. (1992). *The handbook of national population censuses. Europe*. New York: Greenwood Press.

Grantham, G. (1989). Jean Meuvret and the subsistence problem in early modern France. *The Journal of Economic History, 49*(1), 184–200.

Gratton, B., & Merchant, E. R. (2013). Immigration, repatriation, and deportation: The Mexican-origin population in the United States, 1920–1950. *International Migration Review, 47*(4), 944–975.

Graunt, J., & Petty, W. (1662). *Natural and political observations, mentioned in a following index, and made upon the bills of mortality* (The second edition).

London: Printed by Tho. Roycroft, for John Martin, James Allestry, and Tho. Dicas.
Greer, A. (1997). *The people of New France*. Toronto: University of Toronto Press.
Griffith, G. T. (1926). *Population problems of the age of Malthus*. Cambridge: Cambridge University Press.
Gruber, S., & Szołtysek, M. (2012). Stem families, joint families, and the European pattern: What kind of a reconsideration do we need? *Journal of Family History, 37*(1), 105–125.
Guinnane, T. (1991). Re-thinking the Western European marriage pattern: The decision to marry in Ireland at the turn of the twentieth century. *Journal of Family History, 16*(1), 47–64.
Gutmann, M. P. (2018). Beyond social science history: Population and environment in the U.S. Great Plains. *Social Science History, 42*(1), 1–27.
Gutmann, M. P., & Alter, G. C. (1993). Family reconstitution as event-history analysis. In D. S. Reher & R. S. Schofield (Eds.), *Old and new methods in historical demography* (pp. 159–177). Oxford: Oxford University Press.
Gutmann, M. P., Brown, D., Cunningham, A. R., Dykes, J., Leonard, S. H., Little, J., Mikecz, J., Rhode, P. W., Spielman, S., & Sylvester, K. M. (2016). Migration in the 1930s: Beyond the Dust Bowl. *Social Science History, 40*(4), 707–740.
Gutmann, M. P., Deane, G. D., Lauster, N., & Peri, A. (2005). Two population-environment regimes in the Great Plains of the United States, 1930–1990. *Population and Environment, 27*(2), 191–225.
Gutmann, M. P., Deane, G. D., & Witkowski, K. (2011). Finding frontiers in the U.S. Great Plains from the end of the civil war to the eve of the Great Depression. In M. P. Gutmann, G. D. Deane, E. R. Merchant , & K. M. Sylvester (Eds.), *Navigating time and space in population studies* (pp. 161–183). Dordrecht: Springer Netherlands.
Gutmann, M. P., & Fliess, K. H. (1993). The determinants of early fertility decline in Texas. *Demography, 30*(3), 443–457.
Gutmann, M. P., & Leboutte, R. (1984). Rethinking protoindustrialization and the family. *The Journal of Interdisciplinary History, 14*(3), 587–607.
Gutmann, M. P., Merchant, E. K., & Roberts, E. (2018). "Big data" in economic history. *The Journal of Economic History, 78*(1), 268–299.
Gutmann, M. P., Pullum-Piñón, S. M., Witkowski, K., Deane, G. D., & Merchant, E. (2012). Land use and family formation in the settlement of the U.S. Great Plains. *Social Science History, 36*(3), 279–310.
Gutmann, M. P., & van de Walle, E. (1978). New sources for social and demographic history: The Belgian population registers. *Social Science History, 2*(2), 121–143.
Gutmann, M. P., & Watkins, S. C. (1990). Socio-economic differences in fertility control. Is there an early warning system at the village level? *European Journal of Population, 6*(1), 69–101.
Habakkuk, H. J. (1953). English population in the eighteenth century. *The Economic History Review, 6*(2), 117–133.
Hacker, J. D. (2010). Decennial life tables for the white population of the United States, 1790–1900. *Historical Methods: A Journal of Quantitative and Interdisciplinary History, 43*(2), 45–79.
Hacker, J. D., & Roberts, E. (2017). The impact of kin availability, parental religiosity, and nativity on fertility differentials in the late 19th-century United States. *Demographic Research, 37*, 1049–1080.
Haines, M. R. (1996). Long-term marriage patterns in the United States from colonial times to the present. *The History of the Family, 1*(1), 15–39.
Haines, M. R. (2001). The urban mortality transition in the United States, 1800–1940. *Annales de Démographie Historique, 101*(1), 33–64.
Haines, M. R. (2010). *Historical, demographic, economic, and social data: The United States, 1790–2002* [Computer File]. ICPSR 2896-v3. Ann Arbor: Inter-university Consortium for Political and Social Research [distributor]. doi:https://doi.org/10.3886/ICPSR02896.v3.
Haines, M. R., & Hacker, J. D. (2011). Spatial aspects of the American fertility transition in the nineteenth century. In M. P. Gutmann, G. D. Deane, E. R. Merchant, & K. M. Sylvester (Eds.), *Navigating time and space in population studies* (pp. 37–63). Dordrecht: Springer.
Haines, M. R., & Steckel, R. H. (Eds.). (2000). *A population history of North America*. Cambridge: Cambridge University Press.
Hajnal, J. (1965). European marriage patterns in perspective. In D. V. Glass & D. E. C. Eversley (Eds.), *Population in history: Essays in historical demography* (pp. 101–143). London: E. Arnold.
Hajnal, J. (1983). Two kinds of pre-industrial household formation system. In R. Wall, J. Robin, & P. Laslett (Eds.), *Family forms in historic Europe* (pp. 64–104). New York: Cambridge University Press.
Hall, P. K., McCaa, R., & Thorvaldsen, G. (Eds.). (2000). *Handbook of international historical microdata for population research*. Minneapolis, MN: Minnesota Population Center, University of Minnesota.
Hanley, S. B. (1972). Toward an analysis of demographic and economic change in Tokugawa Japan: A village study. *The Journal of Asian Studies, 31*(3), 515–537.
Hanley, S. B. (1974). Fertility, mortality, and life expectancy in pre-modern Japan. *Population Studies, 28*(1), 127–142.
Hanley, S. B., & Wolf, A. P. (Eds.). (1985). *Family and population in East Asian history*. Stanford: Stanford University Press.
Hautaniemi, S. I., Swedlund, A. C., & Anderton, D. L. (1999). Mill town mortality: Consequences of industrial growth in two nineteenth-century New England towns. *Social Science History, 23*(1), 1–39.
Hayami, A. (1979). Thank you Francisco Xavier: An essay in the use of micro-data for historical demography of

Tokugawa Japan. *Keio Economic Studies, 16*(1–2), 65–81.
Hayami, A. (2016). Historical demography in Japan: Achievements and problems. In A. Fauve-Chamoux, I. Bolovan, & S. Sogner (Eds.), *A global history of historical demography. Half a century of interdisciplinarity* (pp. 383–410). Bern, Switzerland: Peter Lang.
Hélin, E. (1963a). Crossance démographique et transformation des campagnes. Chênée, Olne, Gemmenich aux xviiie et xixe siècles. In E. Hélin (Ed.), *Cinq études de démographie locale (xviie-xixe s.)* (pp. 195–240). Brussels: Pro Civitate.
Hélin, E. (1963b). *La démographie de Liège aux xviie et xviiie siècles*. Brussels: Académie Royale de Belgique.
Hélin, E., & van Santbergen, R. (1958). *La population des paroisses liégeoises aux xviie et xviiie siècles*. Liège: Editions de la Commission communale de l'histoire de l'ancien pays de Liège.
Henripin, J. (1954a). La fécondité des ménages canadiens au début du xviiie siècle. *Population, 9*(1), 61–84.
Henripin, J. (1954b). *La population canadienne au début du xviiie siècle: Nuptialité, fécondité, mortalité infantile*. Paris: Presses Universitaires de France.
Henry, L. (1953). Une richesse démographique en friche: Les registres paroissiaux. *Population*, 281–290.
Henry, L. (1956). *Anciennes familles genevoises. Étude démographique: xvie-xxe siècle*. Paris: Presses Universitaires de France.
Henry, L. (1961). Some data on natural fertility. *Eugenics Quarterly, 8*(2), 81–91.
Henry, L. (1972). Fécondité des mariages dans le quart sud-ouest de la France de 1720 à 1829. *Annales E.S.C., 27*(4–5), 977–1023.
Henry, L. (1978). Fécondité des mariages dans le quart sud-est de la France de 1670 à 1829. *Population, 33*, 855–883.
Henry, L., & Blayo, Y. (1975). La population de la France de 1740 à 1860. *Population*, 71–122.
Henry, L., & Houdaille, J. (1973). Fécondité des mariages dans le quart nord-ouest de la France de 1720 à 1829. *Population, 28*(4–5), 873–924.
Herlihy, D., & Klapisch-Zuber, C. (1978). *Les toscans et leurs familles: Une étude du catasto florentin de 1427*. Paris: Presses de la Fondation Nationale des Sciences Politiques.
Hetzel, A. M. (1997). *U.S. Vital statistics system: Major activities and developments, 1950–95*. Hyattsville, MD.: U.S. Dept. of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics.
Hollingsworth, T. H. (1957). A demographic study of the British ducal families. *Population Studies, 11*(1), 4–26.
Hollingsworth, T. H. (1964). The demography of the British peerage. *Population Studies, 18*(2), S3–S72.
Hollingsworth, T. H. (1969). *Historical demography*. Ithaca, N.Y.: Cornell University Press.
Hollingsworth, T. H. (1977). Mortality in the British peerage families since 1600. *Population*, 323–352.
Hoppa, R. D., & Vaupel, J. W. (Eds.). (2008). *Paleodemography: Age distributions from skeletal samples*. Cambridge: Cambridge University Press.
Inter-university Consortium for Political and Social Research. (1992). *Social, demographic, and educational data for France, 1801–1897* [Computer File]. ICPSR 48-v1. Ann Arbor: Inter-university Consortium for Political and Social Research [distributor]. doi:10.3886/ICPSR00048.v1.
Inter-university Consortium for Political and Social Research. (2010). *Demographic, social, educational and economic data for France, 1833–1925* [Computer File]. ICPSR 7529-v2. Ann Arbor: Inter-university Consortium for Political and Social Research [distributor]. doi:10.3886/ICPSR07529.v2.
Jaadla, H., & Reid, A. (2017). The geography of early childhood mortality in England and Wales, 1881–1911. *Demographic Research, 37*(58), 1861–1890.
Jennings, J. A., & Gray, C. L. (2015). Climate variability and human migration in the Netherlands, 1865–1937. *Population and Environment, 36*(3), 255–278.
Jennings, J. A., Sullivan, A. R., & Hacker, J. D. (2012). Intergenerational transmission of reproductive behavior during the demographic transition. *Journal of Interdisciplinary History, 42*(4), 543–569.
Kasakoff, A. B., & Adams, J. W. (1995). The effect of migration on ages at vital events: A critique of family reconstitution in historical demography. *European Journal of Population/Revue Européenne de Démographie, 11*(3), 199–242.
Kasakoff, A. B., & Adams, J. W. (2000). The effects of migration, place, and occupation on adult mortality in the American North, 1740–1880. *Historical Methods: A Journal of Quantitative and Interdisciplinary History, 33*(2), 115–130.
Kertzer, D. I., & Hogan, D. P. (1991). Reflections on the European marriage pattern: Sharecropping and proletarianization in Casalecchio, Italy, 1861–1921. *Journal of Family History, 16*(1), 31–45.
Kirk, D. (1944). Population changes and the postwar world. *American Sociological Review, 9*(1), 28–35.
Knights, P. R. (1971). *The plain people of Boston, 1830–1860: A study in city growth*. New York: Oxford University Press.
Knights, P. R. (1991). *Yankee destinies: The lives of ordinary nineteenth-century Bostonians*. Chapel Hill: University of North Carolina Press.
Knodel, J. E. (1974). *The decline of fertility in Germany, 187–1939*. Princeton: Princeton University Press.
Knodel, J. E. (1987). Starting, stopping, and spacing during the early stages of fertility transition: The experience of German village populations in the 18th and 19th centuries. *Demography, 24*(2), 143–162.
Knodel, J. E. (1988). *Demographic behavior in the past: A study of fourteen German village populations in the eighteenth and nineteenth centuries*. Cambridge: Cambridge University Press.

Knodel, J. E., & Lottes, G. (1975). Ortssippenbücher als quelle für die historische demographie. *Geschichte und Gesellschaft, 1*(2/3), 288–324.

Knodel, J. E., & van de Walle, E. (1979). Lessons from the past: Policy implications of historical fertility studies. *Population and Development Review, 5*(2), 217–245.

Kolk, M. (2011). Deliberate birth spacing in nineteenth century northern Sweden. *European Journal of Population / Revue européenne de Démographie, 27*(3), 337–359.

Kurosu, S. (2002). Studies on historical demography and family in early modern Japan. *Early Modern Japan*, 3–21, 66–71.

Kurosu, S., Bengtsson, T., & Campbell, C. (Eds.). (2010). *Demographic responses to economic and environmental crises*. Kashiwa, Japan: Reitaku University.

Lachiver, M. (1991). *Les années de misère: La famine au temps du grand roi, 1680–1720*. Paris: Fayard.

Lappalainen, M. (2014). Death and disease during the great Finnish famine 1695–1697. *Scandinavian Journal of History, 39*(4), 425–447.

Laslett, P. (1965). *The world we have lost*. New York: Scribner.

Laslett, P. (1977a). Clayworth and Cogenhoe. In *Family life and illicit love in earlier generations: Essays in historical sociology* (pp. 50–101). Cambridge: Cambridge University Press.

Laslett, P. (1977b). *Family life and illicit love in earlier generations: Essays in historical sociology*. Cambridge: Cambridge University Press.

Laslett, P. (1988). The European family and early industrialization. In J. Baechler, J. A. Hall, & M. Mann (Eds.), *Europe and the rise of capitalism* (pp. 234–242). Oxford: Blackwell.

Laslett, P., & Wall, R. (Eds.). (1972). *Household and family in past time*. Cambridge: Cambridge University Press.

Lee, J. Z., & Campbell, C. D. (1997). *Fate and fortune in rural China: Social organization and population behaviour in Liaoning, 1774–1873*. New York: Cambridge University Press.

Lee, J. Z., & Feng, W. (1999). *One quarter of humanity: Malthusian mythology and Chinese realities, 1700–2000*. Cambridge, MA: Harvard University Press.

Lee, R. (2006). The development of population history ('historical demography') in Great Britain from the late nineteenth century to the early 1960s. *Historical Social Research / Historische Sozialforschung, 31*(4), 34–63.

Lee, R. D. (1974). Estimating series of vital rates and age structures from baptisms and burials: A new technique, with applications to pre-industrial England. *Population Studies, 28*(3), 495–512.

Lee, R. D. (1985). Inverse projection and back projection: A critical appraisal, and comparative results for England, 1539 to 1871. *Population Studies, 39*(2), 233–248.

Légaré, J. (1988). A population register for Canada under the French regime: Context, scope, content, and applications. *Canadian Studies in Population, 15*(1), 1–16.

Leonard, S. H., & Gutmann, M. P. (2005). Isolated elderly in the U.S. Great plains. The roles of environment and demography in creating a vulnerable population. *Annales de Démographie Historique, 110*, 81–108.

Leonard, S. H., Gutmann, M. P., Deane, G. D., & Sylvester, K. M. (2010). Drought and the lifecycle/landuse trajectory in agricultural households. In S. Kurosu, T. Bengtsson, & C. Campbell (Eds.), *Demographic responses to economic and environmental crises* (pp. 204–226). Kashiwa, Japan: Reitaku University.

Leonard, S. H., Robinson, C., Swedlund, A. C., & Anderton, D. L. (2015). The effects of wealth, occupation, and immigration on epidemic mortality from selected infectious diseases and epidemics in Holyoke Township, Massachusetts, 1850–1912. *Demographic Research, 33*, 1035–1046.

Lesthaeghe, R. J. (1977). *The decline of Belgian fertility, 1800–1970*. Princeton: Princeton University Press.

Levine, D. (1976). Proletarianization, economic opportunity, and population growth. In W. Conze (Ed.), *Sozialgeschichte der Familie in der Neuzeit Europas* (pp. 247–253). Stuttgart: Klett.

Levine, D. (1977). *Family formation in an age of nascent capitalism*. New York: Academic Press.

Livi Bacci, M. (1971). *A century of Portuguese fertility*. Princeton: Princeton University Press.

Livi Bacci, M. (1977). *A history of Italian fertility during the last two centuries*. Princeton: Princeton University Press.

Long, J., & Ferrie, J. (2013). Intergenerational occupational mobility in Great Britain and the United States since 1850. *American Economic Review, 103*(4), 1109–1137.

Loveman, M. (2009). The race to progress: Census taking and nation making in Brazil (1870–1920). *Hispanic American Historical Review, 89*(3), 435–470.

Lundh, C., & Kurosu, S. (2014). *Similarity in difference: Marriage in Europe and Asia, 1700–1900*. Cambridge, MA: The MIT Press.

Maitland, F. W. (1897). *Domesday book and beyond*. Cambridge: Cambridge University Press.

Malthus, T. R. (1803). *An essay on the principle of population, or, a view of its past and present effects on human happiness. A new edition, very much enlarged*. London: Printed for J. Johnson, in St. Paul's Churchyard by T. Bensley, Holt Court, Fleet Street.

Malthus, T. R. (1826). *An essay on the principle of population, or, a view of its past and present effects on human happiness with an inquiry into our prospects respecting the future removal or mitigation of the evils which it occasions*. London: J. Murray.

Mandemakers, K. (2000). Historical sample of the Netherlands. In P. K. Hall, R. McCaa, & G. Thorvaldsen (Eds.), *Handbook of international*

historical microdata for population research (pp. 149–178). Minneapolis: Minnesota Population Center, University of Minnesota.

Massey, C. G. (2017). Playing with matches: An assessment of accuracy in linked historical data. *Historical Methods: A Journal of Quantitative and Interdisciplinary History, 50*(3), 129–143.

Matthijs, K., & Moreels, S. (2010). The Antwerp COR*-database: A unique Flemish source for historical-demographic research. *The History of the Family, 15*(1), 109–115.

McCaa, R. (2000). The peopling of Mexico from origins to Revolution. In M. R. Haines & R. H. Steckel (Eds.), *A population history of North America* (pp. 241–304). Cambridge: Cambridge University Press.

McCaa, R. (2003). Missing millions: The demographic costs of the Mexican Revolution. *Mexican Studies/Estudios Mexicanos, 19*(2), 367–400.

McKeown, T. (1976). *The modern rise of population*. London: Edward Arnold.

McKeown, T., & Brown, R. G. (1955). Medical evidence related to English population changes in the eighteenth century. *Population Studies, 9*(2), 119–141.

McLaren, A. (1978). *Birth control in nineteenth-century England*. New York: Holmes & Meier.

Medick, H. (1976). The proto-industrial family economy: The structural function of household and family during the transition from peasant society to industrial capitalism. *Social History, 1*(3), 291–315.

Mendels, F. F. (1972). Proto-industrialization: The first phase of the industrialization process. *The Journal of Economic History, 32*(1), 241–261.

Merchant, E. K. (2015). *Prediction and control: Global population, population science, and population politics in the twentieth century*. (Ph.D.), University of Michigan, Ann Arbor, Michigan. Retrieved from http://hdl.handle.net/2027.42/113440.

Merchant, E. K. (2017). A digital history of Anglophone demography and global population control, 1915–1984. *Population and Development Review, 43*(1), 83–117.

Merchant, E. K., Gratton, B., & Gutmann, M. P. (2012). A sudden transition: Household changes for middle aged U.S. Women in the twentieth century. *Population Research and Policy Review, 31*(5), 703–726.

Meuvret, J. (1946). Les crises de subsistances et la démographie de la France d'ancien régime. *Population*, 643–650.

Meuvret, J. (1965). Demographic crisis in France from the sixteenth to the eighteenth century. In D. V. Glass & D. E. C. Eversley (Eds.), *Population in history* (pp. 507–522). London: Edward Arnold.

Moreels, S., & Vandezande, M. (2012). Migration and reproduction in transitional times: Stopping behavior of immigrants and natives in the Belgian city of Antwerp (1810–1925). *Historical Social Research, 37*(3), 321–350.

Mosk, C. (1979). The decline of marital fertility in Japan. *Population Studies, 33*(1), 19–38.

Notestein, F. W. (1944). *The future population of Europe and the Soviet Union: Population projections, 1940–1970*. Geneva: League of Nations.

Notestein, F. W. (1945). Population: The long view. In T. W. Schultz (Ed.), *Food for the world* (pp. 36–57). Chicago: University of Chicago Press.

Ó Gráda, C., & Chevet, J.-M. (2002). Famine and market in Ancien Régime France. *The Journal of Economic History, 62*(3), 706–733.

Oeppen, J. (1993). Back projection and inverse projection: Members of a wider class of constrained projection models. *Population Studies, 47*(2), 245–267.

Okun, B. S. (1994). Evaluating methods for detecting fertility control: Coale and Trussell's model and cohort parity analysis. *Population Studies, 48*(2), 193–222.

Okun, B. S. (1995). Distinguishing stopping behavior from spacing behavior with indirect methods. *Historical Methods: A Journal of Quantitative and Interdisciplinary History, 28*(2), 85–96.

Omran, A. R. (1971). The epidemiologic transition: A theory of the epidemiology of population change. *The Milbank Memorial Fund Quarterly, 49*(4), 509–538.

Owen, N. G. (Ed.) (1987). *Death and disease in Southeast Asia: Explorations in social, medical and demographic history*. New York: Oxford University Press.

Palmeri, F. (2008). Conjectural history and the origins of sociology. *Studies in Eighteenth-Century Culture, 37*(1), 1–21.

Patriarca, S. (1996). *Numbers and nationhood: Writing statistics in nineteenth-century Italy*. New York: Cambridge University Press.

Pounds, N. J. G. (2000). *A history of the English parish: The culture of religion from Augustine to Victoria*. Cambridge: Cambridge University Press.

Prest, W. R. (1976). Stability and change in old and New England: Clayworth and Dedham. *The Journal of Interdisciplinary History, 6*(3), 359–374.

Preston, S. H., & Haines, M. R. (1991). *Fatal years: Child mortality in late nineteenth-century America*. Princeton: Princeton University Press.

Puschmann, P., Donrovich, R., & Matthijs, K. (2017). Salmon bias or red herring? Comparing adult mortality risks (ages 30–90) between natives and internal migrants: Stayers, returnees and movers in Rotterdam, the Netherlands, 1850–1940. *Human Nature, 28*, 481–499.

Puschmann, P., Gronberg, P. O., Schumacher, R., & Matthijs, K. (2014). Access to marriage and reproduction among migrants in Antwerp and Stockholm. A longitudinal approach to processes of social inclusion and exclusion, 1846–1926. *History of the Family, 19*(1), 29–52.

Quaranta, L. (2011). Agency of change: Fertility and seasonal migration in a nineteenth century alpine community. *European Journal of Population / Revue européenne de Démographie, 27*(4), 457–485.

Quaranta, L. (2014). Early life effects across the life course: The impact of individually defined exogenous measures of disease exposure on mortality by sex in

19th- and 20th-century southern Sweden. *Social Science & Medicine, 119*, 266–273.
Reher, D. S. (1991). Marriage patterns in Spain, 1887–1930. *Journal of Family History, 16*(1), 7–30.
Reher, D. S., Ortega, J. A., & Sanz-Gimeno, A. (2008). Intergenerational transmission of reproductive traits in Spain during the demographic transition. *Human Nature, 19*(1), 23–43.
Rettaroli, R., & Scalone, F. (2012). Reproductive behavior during the pre-transitional period: Evidence from rural Bologna. *Journal of Interdisciplinary History, 42*(4), 615–643.
Roberts, E., Ruggles, S., Dillon, L. Y., Gardarsdóttir, Ó., Oldervoll, J., Thorvaldsen, G., & Woollard, M. (2003). The North Atlantic Population Project. An overview. *Historical Methods: A Journal of Quantitative and Interdisciplinary History, 36*(2), 80–88.
Roffe, D. (2000). *Domesday: The inquest and the book*. Oxford: Oxford University Press.
Rosental, P.-A. (2003). The novelty of an old genre: Louis Henry and the founding of historical demography. *Population*, 97–129.
Rostow, W. W. (1960). *The stages of economic growth, a non-communist manifesto*. Cambridge: Cambridge University Press.
Rotering, P. P. P., & Bras, H. (2015). With the help of kin? *Human Nature, 26*(1), 102–121.
Ruggles, S. (1992). Migration, marriage, and mortality: Correcting sources of bias in English family reconstitutions. *Population Studies, 46*(3), 507–522.
Ruggles, S. (2009). Reconsidering the northwest European family system: Living arrangements of the aged in comparative historical perspective. *Population and Development Review, 35*(2), 249–273.
Ruggles, S. (2010). Stem families and joint families in comparative historical perspective. *Population and Development Review, 36*(3), 563–577.
Ruggles, S. (2014). Big microdata for population research. *Demography, 51*(1), 287–297.
Ruggles, S., Fitch, C. A., & Roberts, E. (2018). Historical census record linkage. *Annual Review of Sociology*.
Ruggles, S., Genadek, K., Goeken, R., Grover, J., & Sobek, M. (2017). *Integrated public use microdata series: Version 7.0*. [Computer File]. Minneapolis: University of Minnesota [distributor]. doi:10.18128/D010.V7.0.
Ruggles, S., Roberts, E., Sarkar, S., & Sobek, M. (2011). The North Atlantic Population Project: Progress and prospects. *Historical Methods: A Journal of Quantitative and Interdisciplinary History, 44*(1), 1–6.
Russell, J. C. (1948). *British medieval population*. Albuquerque: Univ. of New Mexico Press.
Saito, O. (1992). Infanticide, fertility and 'population stagnation': The state of Tokugawa historical demography. *Japan Forum, 4*(2), 369–381.
Saito, O. (2000). Introduction: The economic and social aspects of the family life-cycle in traditional and modern Japan. *Continuity and Change, 15*(1), 11–15.
Schmertmann, C. P., Potter, J. E., & Assunção, R. M. (2011). An innovative methodology for space-time analysis with an application to the 1960–2000 Brazilian mortality transition. In M. P. Gutmann, G. D. Deane, E. R. Merchant, & K. M. Sylvester (Eds.), *Navigating time and space in population studies* (pp. 19–36). Dordrecht: Springer Netherlands.
Schofield, R. S., Reher, D. S., & Bideau, A. (Eds.). (1991). *The decline of mortality in Europe*. Oxford: Clarendon Press.
Séguy, I. (2016). The French school of historical demography (1950–2000): Strengths and weaknesses. In A. Fauve-Chamoux, I. Bolovan, & S. Sogner (Eds.), *A global history of historical demography. Half a century of interdisicplinarity* (pp. 257–276). Bern: Peter Lang.
Shapiro, S. (1950). Development of birth registration and birth statistics in the United States. *Population Studies, 4*(1), 86–111.
Shiue, C. H. (2016). A culture of kinship: Chinese genealogies as a souce for research in demographic economics. *Journal of Demographic Economics, 82*(4), 459–482.
Slicher van Bath, B. H. (1968). Historical demography and the social and economic development of the Netherlands. *Daedalus, 97*(2), 604–621.
Smith, D. S. (1993). American family and demographic patterns and the Northwest European model. *Continuity and Change, 8*(3), 389–415.
Smith, K. R., Mineau, G. P., & Bean, L. L. (2002). Fertility and post-reproductive longevity. *Social Biology, 49*(3–4), 185–205.
Smith, K. R., Mineau, G. P., Garibotti, G., & Kerber, R. (2009). Effects of childhood and middle-adulthood family conditions on later-life mortality: Evidence from the Utah Population Database, 1850–2002. *Social Science & Medicine, 68*(9), 1649–1658.
Smith, T. C. (1977). *Nakahara: Family farming and population in a Japanese village, 1717–1830*. Stanford: Stanford University Press.
Szreter, S., & Fisher, K. (2010a). *Sex before the sexual revolution: Intimate life in England 1918–1963* Cambridge: Cambridge University Press.
Szreter, S., & Fisher, K. (2010b). "We weren't the sort that wanted intimacy every night": Birth control and abstinence in England, c.1930–60. *The History of the Family, 15*(2), 139–160.
Teitelbaum, M. S. (1984). *The British fertility decline: Demographic transition in the crucible of the Industrial Revolution*. Princeton: Princeton University Press.
Thernstrom, S. (1964). *Poverty and progress: Social mobility in a nineteenth century city*. Cambridge, MA: Harvard University Press.
Thompson, W. S. (1929). Population. *American Journal of Sociology, 34*(6), 959–975.
Thornton, A. (2001). The developmental paradigm, reading history sideways, and family change. *Demography, 38*(4), 449–465.

Thornton, A. (2005). *Reading history sideways: The fallacy and enduring impact of the developmental paradigm on family life*. Chicago: University of Chicago Press.

Thorvaldsen, G. (2018). *Censuses and census takers: A global history*. London: Routledge.

Tsuya, N. O., Feng, W., Alter, G., & Lee, J. Z. (2010). *Prudence and pressure: Reproduction and human agency in Europe and Asia, 1700–1900*. Cambridge, MA: MIT Press.

Tsuya, N. O., & Kurosu, S. (2010). Family, household, and reproduction in northeastern Japan, 1716 to 1870. In N. O. Tsuya, W. Feng, G. Alter, & J. Z. Lee, *Prudence and pressure: Reproduction and human agency in Europe and Asia, 1700–1900* (pp. 249–285). Cambridge, MA: MIT Press.

U.S. Bureau of the Census. (2002). *Measuring America: The decennial censuses from 1790 to 2000*. Washington, DC: U.S. G.P.O.

Van de Putte, B., van Poppel, F., Vanassche, S., Sanchez, M., Jidkova, S., Eeckhaut, M., Oris, M., & Matthijs, K. (2009). The rise of age homogamy in 19th century Western Europe. *Journal of Marriage and Family, 71*(5), 1234–1253.

van de Walle, E. (1974). *The female population of France in the nineteenth century*. Princeton: Princeton University Press.

van de Walle, E. (2005). Historical demography. In D. L. Poston & M. Micklin (Eds.), *Handbook of population* (pp. 577–600). New York: Kluwer Academic/Plenum Publishers.

van de Walle, E., & Blanc, O. (1975). Registres de population et démographie: La Hulpe, 1846–1880. *Population et Famille, 36*, 113–128.

van de Walle, E., & Knodel, J. E. (1967). Demographic transition and fertility decline: The European case *Proceedings of the 1967 meeting* (pp. 47–55). Liège: International Union for the Scientific Study of Population.

van Poppel, F., Oris, M., & Lee, J. Z. (Eds.). (2004). *The road to independence: Leaving home in western and eastern societies, 16th-20th centuries*. Bern: Peter Lang.

Ventresca, M. (1995). *When states count: Institutional and political dynamics in modern census establishment, 1800–1993*. (Ph.D.), Stanford University, Palo Alto, CA.

Vinovskis, M. A. (1972). Mortality rates and trends in Massachusetts before 1860. *Journal of Economic History, 32*(1), 184–213.

Walters, S. (2016). Counting souls: Towards an historical demography of Africa. *Demographic Research, 34*(3), 63–108.

Watkins, S. C., & Danzi, A. D. (1995). Women's gossip and social change: Childbirth and fertility control among Italian and Jewish women in the United States, 1920–1940. *Gender and Society, 9*(4), 469–490.

Watkins, S. C., & Gutmann, M. P. (1983). Methodological issues in the use of population registers for fertility analysis. *Historical Methods: A Journal of Quantitative and Interdisciplinary History, 16*(3), 109–120.

Wells, R. V. (1995). The mortality transition in Schenectady, New York, 1880–1930. *Social Science History, 19*(3), 399–423.

Williams, L., & Guest, M. P. (Eds.). (2012). *Demographic change in Southeast Asia: Recent histories and future directions*. Ithaca: Cornell University Press.

Willigan, J. D., & Lynch, K. A. (1982). *Sources and methods of historical demography*. New York: Academic Press.

Wilson, C., Oeppen, J., & Pardoe, M. (1988). What is natural fertility? The modelling of a concept. *Population Index, 54*(1), 4–20.

Wrigley, E. A. (1966a). Family limitation in pre-industrial England. *Economic History Review, 19*(1), 82–109.

Wrigley, E. A. (Ed.) (1966b). *An introduction to English historical demography from the sixteenth to the nineteenth century*. New York: Basic Books.

Wrigley, E. A. (1994). The effect of migration on the estimation of marriage age in family reconstitution studies. *Population Studies, 48*(1), 81–97.

Wrigley, E. A. (1998). Small-scale but not parochial: The work of the Cambridge group for the history of population and social structure. *Family & Community History, 1*(1), 27–36.

Wrigley, E. A. (Ed.) (1973). *Identifying people in the past*. London: Arnold.

Wrigley, E. A., Davies, R. S., Oeppen, J. E., & Schofield, R. S. (1997). *English population history from family reconstitution, 1580–1837*. Cambridge: Cambridge University Press.

Wrigley, E. A., & Schofield, R. S. (1981). *The population history of England, 1541–1871: A reconstruction*. Cambridge, MA: Harvard University Press.

Zhao, Z. (2001). Chinese genealogies as a source for demographic research: A further assessment of their reliability and biases. *Population Studies, 55*(2), 181–193.