CHAPTER 19

Historical Demography

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The Study of Population: An Inventory and Appraisal (Hauser and Duncan 1959) included no chapter on "History and Demography," mostly, the editors claimed, because of "limitations of space." Their description of the discipline, however, pointed to its grave weaknesses at the time:

> To the demographer it may often seem that the historian's use of censuses and like sources is somewhat casual, which is perhaps because the historian's problems so often pertain to periods for which data coming up to standards of modern demography are wholly or partly lacking. There is a specialized sub-discipline of "historical demography" or "demographic history" whose practitioners work in periods antedating modern censuses and registration systems. Here they attempt to derive population estimates from whatever symptomatic data may be available. This is an exacting field of historiography which requires the combined skills of the expert in documentary criticism and the statistician. Significantly, it has been cultivated to a much greater extent by Europeans than by Americans. No doubt a good many American demographers share the following opinion of studies in historical demography: 'the possibilities of determining the size and characteristics of past populations with a sufficient degree of accuracy so as to make the data demographically very useful are small. ... The exact relationship of such summaries to population problems in the modern world would not appear very close' (50–51).

Hauser and Duncan were writing in 1959, at a watershed in the development of the discipline. In the chapter of the volume devoted to "Demography in France," Alfred Sauvy mentioned the name of Louis Henry several times, but never in the context of historical research, although Henry's path-breaking study of Genevan genealogies had been published in 1956. In 1956 Henry had produced, together with archivist Michel Fleury, a manual on the analysis of parish registers, and in 1958, with Etienne Gautier, a study of the parish of Crulai that would constitute the archetype of all subsequent parish monographs. Also in 1958, he laid down a plan to study a representative

sample of rural parishes of France using nonnominal data. Thus, at the very time when *The Study of Population* was published, the field was being radically transformed, and two powerful new techniques of analysis had been presented: family reconstitution and the seeds of what would later be called population reconstruction, the aggregate analysis of parish records over time to reconstitute the age and sex distribution of the population.

CONCEPTUAL FRAMEWORKS

It is clear that whatever the worth of Hauser and Duncan's indictment of historical demography as they knew it, it did not characterize Henry's work. His main source of data consisted of parish records, not censuses, and he was acutely aware of the problems of data quality and bias. Moreover, he was a demographer using historical materials for whatever "useful" demographic information they could give; one example was the investigation of biological fertility, in the absence of the disturbing influence of contraceptive intervention that characterized contemporary high-quality sources of information on reproductive behavior. He was probably less interested in history than in the measurements of demographic variables that could be studied neither in the low-fertility and low-mortality populations of the western world, nor with the unreliable statistics of the less developed countries. As Henry put it, he wanted to "mine the past" for data that could not be obtained elsewhere. Ascertaining population size was not the primary objective of his investigations, nor were his goals the conventional measurements of mainstream demography: birth and death rates, life tables, distributions of the population by age and sex. His approach was based on individual observations treated in a cohort perspective, at a time when demography was dominated by the use of aggregate data at a period level. He proposed a method to use data on vital events to compute rates in the absence of an enumeration of the underlying population, in contrast with standard demographic techniques that combine lists of events and lists of people. The specific nature of his sources allowed him to study topics that had been barely broached before him, such as the proximate determinants of fertility and the components of the birth interval (Henry 1970).

Thus, historical demography was initially a technical discipline aiming at extracting measurements from archival sources consisting mostly of parish records of marriages and vital events in the past with the help of a toolbox of rigorous methods. The field has expanded vastly since then, both in the sources and in its focus on substantive topics. T. H. Hollingsworth (1969) has suggested that the use of the adjective in "historical demography" implies that it is an auxiliary science of history, a methodology to gather historical facts; whereas the history of population is not dependent on sophisticated techniques but can use a variety of approaches, such as induction from general principles, archeological evidence, or the consultation of contemporary authors. This distinction between historical demography and the history of population corresponds to the old distinction made by Hauser and Duncan between demography and population studies, and it is increasingly abandoned as artificial. Deaths, marriages, and births are social events of profound importance, and it is only artificially that they can be separated from their historical context. The same authors write on the two aspects of population in the same journals, and a combination of techniques and substance makes

for the best research. The distinction will not be used in this chapter, where we will review some of the substantive focuses of studies on the determinants and consequences of population trends in the past. Perhaps more than in any other part of demography, however, the nature and the content of the available historical sources determine the type of studies that can be conducted. It is a data-based discipline, not one concerned primarily about issues. Hauser and Duncan's remark that the specialty remained a specialty of European researchers (that is, students of European history) remains true because of the depth of the European sources, although Japanese and Chinese sources are now making inroads into this monopoly.

The *Multilingual Demographic Dictionary* (IUSSP 1981) defines historical demography simply by its focus on populations of the past for which there are written sources. It excludes paleodemography, the study of nonwritten sources (e.g., skeletal remains) to investigate the preliterate past. It does not define "the past"; the time when it ends and the present commences is left to the decision of the researcher. A historical perspective is by definition comparative, and a comparison with the present facilitates the understanding of the past. To an extent that was greatly underestimated by Hauser and Duncan, the historical record is serving as a vast library of the human experience over time, a data bank to which new techniques are applied as they are developed, and a growing store of comparative material in which hypotheses on human behavior can be tested. Historical demography has ceased to be a toolbox of arcane techniques.

And yet its relation to history has remained a marginal one. Its focus is not on great men and important events, but on the obscure men and women of rural parishes whose "events" of record were baptisms, marriages, and burials, or on the mass of people enumerated in censuses with a few characteristics fitting predetermined broad categories. Because of its concentration on individual biographies and legal documents, traditional historiography had only skimmed the surface of a larger sociological reality. Even reputable historians shared some myths about the family characteristics of the past that historical demography helped to debunk. For example, it was commonly believed that the peasant populations of Europe lived in large extended family households, that women of the people had very large families, and that marriage occurred at a very young age. The study of documents from the past exposed these notions as stereotypes. The types of problems the new demographic historians have considered are illustrated by the titles of some of these articles or book chapters: "Did the Peasants Really Starve?" (Laslett 1965); "Did the Mothers Really Die?" (Schofield 1986). These are important questions, but hardly ones that traditional historians could have answered.

Historical demography has hugely contributed to a better understanding of underlying structures and tendencies over the long run. Because of that focus, it fit well in what became an important school of historians in the post–World War II period—the French *Annales* school and its followers all over the world. The new history of population was "serial" history, as opposed to "evential" history. To the extent that population structure and change influence economy and society, they have provided an indispensable backcloth for the description of the human past. The lasting impact of demography on history, after the initial excitement with technical innovations such as family reconstitution, has been in providing a window on the social structure of the past and on the dynamics of economic growth, urbanization, and consumption patterns. In turn, specialized areas of history, such as the history of technology, of disease, and of contraception, have proven indispensable for an understanding of the proximate determinants of population change.

METHODOLOGICAL CHALLENGES: THE SOURCES AND THE TECHNIQUES

Family Reconstitution on the Basis of Nominal Records of Vital Events

Parish records had been used by historians and by demographers before Louis Henry. His essential contribution consisted in setting rules for determining, in the absence of direct information, the size and structure of the population "under observation"—e.g., a population exposed to particular risks such as marital fertility or infant and child mortality. The method consisted of reconstituting families (in the narrow sense of couples and their offspring) by linking nominal records over time. The Henry model was very widely accepted by others, both in France and abroad, and family reconstitution became the main technique used for investigating populations of the past. By 1980, there had been more than 500 parish monographs in France, most of them by students in university departments of history. Henry himself and his team reconstituted a large number of families in some 40 parishes as a nominal complement to his sample of nonnominal data; unfortunately, the results for the four "quadrants" of France were published separately in different journals (Henry 1972, 1978; Henry and Houdaille 1973; Houdaille 1976; for a recent description of the study and its methodology, see Séguy 2001). The earliest registers used in the reconstitutions go back to 1670. The availability and quality of the data decrease before the former date, but there have been attempts to extend family reconstitution in some parishes to earlier in the 17th or even the 16th century (Séguy 1999). Jean-Pierre Bardet (1983) attempted the study of a medium-sized city, Rouen, during the 17th and 18th centuries.

Family reconstitution was diffused outside of France. Jacques Charbonneau, a historian who had reconstituted families in a large parish of Normandy, Tourouvre-au-Perche, that was the place of origin of a large contingent of settlers in Canada, joined forces with demographer Jacques Légaré to attempt the complete reconstruction of the French population of Canada from its 17th-century beginnings (Charbonneau et al. 1993). In view of the large number of records to be linked, this project made use of automated computer methods, using a phonetic code of names. In England, E. A. Wrigley applied the Henry method of family reconstitution wholesale on a village of Devon, Colyton (Wrigley 1966). Wrigley and his colleagues (1997) would eventually publish the results of family reconstitution on a sample of 26 Anglican parishes. There are examples of the use of family reconstitution in parishes of other countries, such as Italy, Spain, Switzerland, and the lower countries; a few attempts have been made in the United States (Temkin-Greener and Swedlund 1978; Byers 1982; Logue 1985).

The family reconstitution method is labor-intensive and time-consuming. Before the era of computers, it relied on hand tabulation of individual records painstakingly copied on cards of different colors. Significant time could be gained by making use of already reconstituted families in the form of genealogies or population registers. Jacques Henripin (1954) had pioneered the use of genealogies in a study of Canada at the beginning of the 18th century, and Henry used them for his Genevan study. With Claude Lévy, he also analyzed the Dukes and Peers of France, showing that they had started to practice family limitation, like the Geneva bourgeoisie, in the 17th century (Lévy and Henry 1960). Jacques Houdaille (1988, 1989) used genealogies of the French

lower nobility and bourgeoisie to document the progression of family limitation from higher to lower social classes. Similar studies were conducted among the ruling classes in Italian cities (see Livi-Bacci 1986), where the decline of fertility was also comparatively early. On the other hand, T. H. Hollingsworth's (1964) study of the English peerage showed little or no decline of fertility before the 19th century. John Knodel (1988) studied a large sample of village genealogies (*Ortsippenbücher*) in Germany.

There have been some attempts at family reconstitution in the U.S. using genealogies (Kantrow 1980). By far the largest American study (Bean, Mineau, and Anderton 1990) makes use of the nominative records collected and maintained by the Genealogical Society of Utah and supported by the Mormon Church. It uses family group sheets that list at least one member who was born or died in Utah or on the pioneer trail to that state. Genealogies, because of their roots in the study of cross-generational relationships, lend themselves to other uses, such as genetic investigations or the study of extended kinship networks. The historical genealogies of the Utah project are extended into the present through links with contemporary sources and used for epidemiological studies (Skolnick 1980). Post and associates (1997) have studied changes in the numbers of living parents and grandparents, siblings, aunts and uncles, and nephews and nieces in the Netherlands between 1830 and 1990.

Outside of Europe, Ts'ui-jung Liu initiated the study of Chinese genealogies. Seventeenth- and 18th-century Chinese data of good quality have been studied for the Qing imperial lineage from 1644 to 1911 (Liu, Lee, Reher, and Wang 2001). These sources focus on atypical, elite populations, and most often they provide no information on females or on deaths at the early ages. On the other hand, they have the potential to go back in time well beyond the periods covered in Europe. The published genealogy of the Wang clan has been used to investigate male mortality above age 20 over more than 1,500 years, suggesting that throughout the period mortality was very stable at levels close to those of the British peerage born in the second quarter of the 18th century (Zhao 1997).

The population register provides another source of data that uses already reconstituted families. Population registers consist of continuous sets of records that regularly update an initial census through the registration of additions and attritions (births, deaths, moves) to the population as they occur. They have the advantage of providing information on the structure of the population, while family reconstitution infers the denominator of rates by assuming the presence of certain persons in the parish studied. The Swedish population Registers started in 1749 and have been intensively analyzed by Swedish scholars (see, for example, Akerman 1973; Bengtsson, Fridlizius, and Ohlsson. 1981). They contain information on causes of death, including smallpox, since 1749 and, after vaccination became compulsory in 1816, "on whether an individual had been inoculated, vaccinated, previously been infected by smallpox, or had been neither infected nor treated by any preventive method" (Sköld 1996: 248). The Belgian population registers have existed since 1846; those of Verviers, a medium-sized industrial city, have been analyzed by George Alter (1988). Akira Hayami (1979) launched the study of the *shūmon aratame-chō* (religious faith investigation registers), the Japanese population registers. There are also household registration records in China that lend themselves to the study of peasant populations in the 18th and 19th centuries (Lee and Campbell 1997). The Japanese established population registers in Taiwan in 1905 (Wolf and Huang 1980).

Parish Records Used Aggregatively

Church records have been a perennial source of information for historians well before their statistical analysis was perfected, and there are many monographs that rely partly on them (for example, Demos 1971). Other historians have long used parish registers to compile the number of marriages, baptisms, and burials over time and to draw conclusions, based on their frequencies, on such subjects as the seasonality of events or the ratio of births to marriages as a rough indicator of fertility. The approach has been especially important in the study of mortality. The requirement of completeness and accuracy of the data are much less stringent than for family reconstitutions, since they do not have to be linked over time. Even incomplete records of deaths over time provide a reliable indication of the existence of food crises and the visit of epidemics.

Defective and incomplete parish registers can provide usable information for parts of the world where statistical data are scarce, for example, in Russia (Hoch 1998), Latin America (McCaa 2000), and even Africa (Notkola, Timaeus, and Siiskonen 2000). Studies at the local level have yielded long series of yearly or even monthly numbers of deaths with a sawtooth pattern of peaks well above the background level of mortality, corresponding to the existence of mortality crises of various kinds (for a European example, see Wrightson and Levin 1989). Such series have been compared over time for national and international aggregates (Appleby 1979; Livi-Bacci 1991; Post 1985). The seasonal pattern of death can throw light on the nature of epidemics. For example, the bubonic plague is a disease of the warmer parts of the year, as its vectors, the black rat and its flea, have originated in a subtropical region of Asia. Similarly, the age and sex of the deceased can provide interesting information on the patterns of mortality. Potential studies are not limited to Christian registers: Ann Bowman Jannetta (1987) has used Buddhist temple death registers in Japan to study epidemics and mortality between 1771 and 1852. These documents include information on the epidemic causes of death, particularly on smallpox and measles.

Parish records typically contain some information on the characteristics of the persons involved. Many parish monographs make use of this information as a complement to the results obtained from family reconstitution or from other sources on the structural characteristics of the population. Mention of the marital status of the mother of newborn children in a sample of ecclesiastical records provided the raw materials for the study of bastardy and illegitimacy in England (Laslett, Oosterveen, and Smith 1980). Marriage acts are especially informative, because they yield information of the survival of the parents of the bride and groom, the ability of the new couple and the witnesses to sign their name, and their occupations. Henry designed a representative sample of rural French parishes and proceeded to extract systematically all the available information on the parish records in an aggregative, nonnominal fashion. What is often called "the Louis Henry survey" covered France during the period between 1670 and 1829. One objective was the analysis of aggregate information on the population. This resulted in articles on such subjects as religious practice, the seasonality of conceptions, literacy, and illegitimacy. (See Séguy 2001: 77 for bibliographic references.) The main objective of the compilation, however, was the reconstruction of the 18th century by age and sex and the production of life tables on this basis (Blayo 1975). Jean-Noel Biraben has launched a similar study for an earlier period extending back to 1500 (Séguy 1999).

Henry's reconstruction of the population of France before the era of censuses was an early example of the method of back projection. Wrigley and Schofield (1981) adopted

the method in order to reconstruct the population of England from 1541 to 1871 and to compute standard measures (for example, on the mortality of adults). Noël Bonneuil (1997) reconstructed the population of France by departments by combining backward projection from 1906 to 1856 with forward projection from 1806 to 1856. A project to reconstruct the population of Italy is in progress at the University of Bologna. Back projection is one example of a series of approaches that use the balance equation to estimate the values of lines and surfaces in the Lexis diagram. By relying on known values (for example, the age distribution at a certain date and the deaths by age in each year before the censuses) and making certain assumptions (for example, on the size of migration), it is possible to estimate other population values, such as the age distribution at earlier dates and the initial size of each birth cohort. A series of variants on this idea are described in Reher and Schofield (1993); the volume also includes a review by Ronald Lee expressing skepticism about the results of these efforts. Coale and Zelnick (1963) had used the same general principle to estimate the fertility of the white population of the United States, while also correcting successive censuses for underenumeration.

In a special chapter of Wrigley and Schofield's book, Lee (1981) used serial analysis to examine the relation between the long-term series of marriages, births, and deaths in the sample of parishes and wheat prices and meteorological data for England. Patrick Galloway (1988) applied the method to various preindustrial populations of Europe, and David Reher and Alberto Sanz-Gimeno (2000) to a combination of parish register and vital registration data in the 19th century. In a recent extension of this technique, Scott and Duncan (1998) have attempted to use time-series analysis of yearly data to explore the relation between local series of baptisms and burials on the one hand and national wheat prices and records of weather conditions for Britain on the other.

Microdata from Censuses

It was inevitable that the other principal source of demographic data, the census, be also analyzed anew on the basis of the nominal census lists remaining from the past. The individual data from some enumerations of past times have been made available for the first time. In other instances, the nominal lists on which the census had been taken have been processed again with electronic equipment and new analyses have been made with modern methods. Censuses provide information on the population structure, and when one exists for a hitherto unstudied locale, it may shed a great deal of light on the social conditions that prevailed. Censuses have been taken for taxation purposes since the highest antiquity—for example, under the Roman and Chinese empires—but in most instances only population totals have been reported, and most census listings have been lost. There is at least one remarkable exception: the dry sands of the Egyptian desert have preserved census returns on papyrus for some 300 households comprising close to 1,100 individuals, listed by name with mention of their age, relationship, and marital status. This provides one of the only pieces of detailed written quantitative evidence in the distant past (Bagnall and Frier 1994).

The *catasto* (land survey) of the city of Florence and the Tuscan countryside in 1427 provides the most remarkable example of a large enumeration of the past being opened up for research by the computer (Herlihy and Klapisch-Zuber 1985). It was taken for taxation purposes and constitutes the oldest surviving enumeration involving a full age and sex distribution of a large population. It contains a great deal of information about

the wealth and occupations of household members during the Quattrocento, an important period of Italian history, and as such is of primary value to the social historian as well as the demographer. Of particular interest to the latter is the marital status distribution of the population, characterized by large age differences between the spouses. Florentine men married much younger women at a late age, and the remarriage of widows was uncommon: a pattern of nuptiality distinctly different from the western European one, but probably not unlike the pattern characteristic of Roman antiquity.

A great many nominal lists of inhabitants have been used, either in combination with parish records in family reconstitution studies, or for what they have to tell by themselves on the structure of the population (see, for example, Peter Laslett's [1977] seminal essay on Clayworth and Cogenhoe). A series of local enumerations in villages and cities has been analyzed for a particular purpose—the investigation of household structure in the past. Laslett has proposed a methodology to analyze census data and a typology of household forms that has been used in a wide variety of European and non-European contexts to explore patterns of residence (Laslett and Wall 1972; Wall, Robin, and Laslett 1983).

In the United States, the study of historical censuses has been facilitated by the systematic conservation of census lists; this is an area where American historical demography is in the forefront of data collection and analysis. In addition to the decennial censuses taken since 1790, a sizable number of colonial censuses have been preserved in manuscript form (Wells 1975), as well as state censuses of the 19th century. There has been a systematic effort to produce public use samples of all the federal censuses from 1880 to the present (Ruggles 1993). The interest in microdata from censuses stems in part from the development of methods that did not exist at the time the information was collected and processed. Equally important, perhaps, in the eyes of social historians is the creation of historical series of comparable data where the evolution of social phenomena and trends can be followed through time. This requires a return to primary records whose importance had not been appreciated at the time of data collection, and that had never been fully tabulated. Thus, the public use samples extracted from the censuses of 1900 and 1910 have been the object of sophisticated analyses of the occupational and ethnic composition of the population (Watkins 1994). The questions on children ever born and surviving have been used to probe the infant and child mortality at a particularly important moment in the mortality transition by using methods developed by William Brass to investigate the mortality of African countries with incomplete statistics at the aggregate level and by combining them with multivariate analysis at the individual level (Preston and Haines 1991). The development of multivariate techniques designed to analyze large amounts of complex information at the individual level has created a demand for this kind of source material.

Aggregate Analysis of Censuses

Published historical census data at the aggregate level have been used extensively either alone, or in combination with vital registration, to trace the evolution of vital trends or the changes in some structural characteristics of the population. Many 19th-century western censuses have standards of quality and completeness that have not yet been reached today in some countries of the developing world. The British Fertility Census of 1911 has provided the raw material for too large a number of studies to be listed here (a

partial listing is given in Anderson 1998). The 1911 census included a series of questions that allowed the publication of a large number of tables showing the number of children born to women by age at the time of the census, by date of marriage, and by duration of marriage. This information has allowed the analysis of fertility trends during a particularly important phase of the fertility transition—by class, occupation, and rural/urban residence—for England, Wales, Scotland, and Ireland. Other national censuses of the 20th century contain less complete information on fertility, typically only the number of children ever born per woman. Several historical studies of fertility in the United States in the 19th century, when vital registration was not yet developed for the whole country, have used child/women ratios (for a review of this work, see Haines and Steckel 2000).

Most studies using aggregate census data for the 19th century, however, combine them with vital registration data that become standard parts of the statistical output of European nations. Most published censuses provide tabulations of the population by sex and marital status at least since midcentury, but vital registration rarely provides a detailed tabulation of birth by age and marital status of their mother. A large study designed by Ansley J. Coale to investigate the fertility transition in Europe at the subnational level (widely known as the Princeton European project) used indirect standardization to compute indices of overall, marital, and illegitimate fertility and of the proportion married to disentangle the effect of marital status from that of fertility control by other means. The index of marital fertility I_g, for example, relates the number of legitimate births registered in the years surrounding a census to the computed number that the married women enumerated in the census would have had if they had experienced the marital fertility of a high fertility standard population, the Hutterites of the early 20th century. The index of the proportion married I_m is weighted by the same fertility pattern, and total fertility I_f would be equal to the product of I_m and I_g but for the usually small effect of illegitimate fertility, I_h. These properties have led to the use of the Princeton indices well beyond the specific national studies executed under the project for Belgium (Lesthaeghe 1977), France (van de Walle 1974), Germany (Knodel 1974), Great Britain (Teitelbaum 1984), Italy (Livi-Bacci 1977), Portugal (Livi-Bacci 1971), Spain (Livi-Bacci 1968), and Russia (Coale, Anderson, and Härm (1974). Coale and Watkins (1986) summarized the results of the project. Other studies of the fertility decline in countries not covered by the Princeton project, but using the same methodology, have been published. There are also projects that use other fertility indices computed from vital registration, as for example studies by Patrice Galloway, Eugene Hammel, and Ronald Lee (1994) on Prussia and by J. Brown and T. Guinnane (2002) on Bavaria.

The combined use of previous national censuses and vital registration is limited mostly to the 19th and 20th centuries. They are particularly useful when there are more or less continuous series taken within unchanging national boundaries. A number of national monographs have assembled all the published information over time, thus providing series of demographic indices comparable to those of a more recent past (for example, Woods 2000).

Other Quantitative Sources: Tax Rolls, Court Records, Membership Lists, Tombstones, and Others

A great many sources that provide lists of people or lists of events or biographical materials lend themselves to quantitative analyses of various kinds. They are particularly

useful for the investigation of periods where more conventional sources do not exist or of phenomena that have left few traces in these sources. Although inscriptions on Roman tombstones have been used to compute life tables, the materials suffer from unconquerable selection biases. Remarkably, an attempt to estimate age at marriage from such inscriptions has been more successful, showing very early ages for females and large differentials by sex, a pattern not unlike that found for Renaissance Florence (Hopkins 1965). Estimates of the mortality impact from 14th-century epidemics of the bubonic plague have been derived in England from land transfers recorded in manorial courts and in Italy from the annuity system used to accumulate funds for dowry payments. From institutional records, David Kertzer (1993) studied foundlings in 19th-century Italy, representing perhaps as much as 4 % of Italian births in the 1860s and suffering from extraordinarily high mortality. John Knodel (1988) used vaccination reports to estimate the proportion of south-German women nursing their children, an important determinant of fertility and mortality in the region. The list of such sources could be extended to many nominal or aggregate records that contain numerical information on people or events.

Whenever available, good biographical materials can be used to estimate mortality. It is possible, for example, to compute life tables for members of religious orders, starting from their age at a date of entry into the order, or for members of Congress starting at their election, provided records mention their date of death. Court records on rare events, such as attempted abortion or infanticide, are the only sources that enable the researcher to assess the frequency of these events, and the circumstances (e.g., the sex and marital status of the accused) under which they are attempted. In contrast to more sensationalist accounts based on the impressions of contemporary witnesses, in these sources they are rare events, committed typically by desperate unmarried mothers.

Medical, Religious, Legal, or Literary Evidence

The proximate determinants of fertility (e.g., the duration of breast-feeding or the use of contraception) must often be studied through unreliable literary evidence. Similarly, the study of medical sources provides evidence on diseases and their treatment. Although these sources are intrinsically biased, they provide a context in which the statistical evidence must be interpreted. For classic examples of the study of this type of evidence, see Nardi (1971) on abortion in the writings of antiquity, Noonan (1986) on contraception in the writings of the Christian tradition, or McNeil (1976) on the role on disease in human history.

THEORETICAL MODELS

There is a polarity in the organization of knowledge, between analysis and synthesis, between the sifting and organization of the hard data that were collected long ago for different purposes, and the models that are often based on intuition but serve to organize the facts as they are gathered. These models interpret historical events into intellectually satisfying constructs that are not necessarily grounded in sound evidence when they are proposed but that provide hypotheses to be tested in subsequent research. The progress of science is then determined by the success of efforts to either confirm the

model or to bring the orthodoxy down and replace it with another one, more consistent with the facts. Whereas historical demography in its early years was dominated by the exploration of sources and the development of measurements, the emphasis has now shifted toward the investigation of whole social structures or demographic systems. The previous section of this chapter organized the discussion "horizontally" as it were, by looking at sources that may provide information on a variety of topics. This section and the next proceed "vertically," by considering large topics that have retained the attention of historical demographers and historians of population. This section considers the more properly demographic topics: fertility, mortality, and marriage. The next section describes some exemplars of more interdisciplinary research in the demographic structure of societies of the past, where historians of population have played a primary role.

Natural Fertility and the Fertility Transition

Louis Henry was led to the study of historical populations by his interest in the proximate determinants of natural fertility, i.e., the fertility of married couples that did not attempt to limit the number of their children by resorting to contraception or abortion. He did not invent the term *natural fertility*, which was commonly used before him to refer to the reproductive regime of high-fertility populations of the past. In early writings, Henry had called them "non-Malthusian populations" and qualified their fertility as biological; the terms were clearly inappropriate. He took an important step by providing a way of identifying natural fertility in statistical series, i.e., when the fertility of married couples was not a function of the number of children they already had. By comparing successive marriage cohorts of individuals in family reconstitutions, it was possible to distinguish clearly between the behavior of early cohorts where fertility was natural and that of later cohorts who practiced family limitation. The publication of Henry's (1961) result on natural fertility exerted an influence well beyond historical studies and laid the foundation for biometric models of the reproductive process and for the proximate determinant framework of fertility.

The dominant model in demography until then had been the theory of the demographic transition, a broad pattern of connected demographic changes in the course of modernization resulting from socioeconomic influences. One of the findings of the Princeton European project was that the decline of fertility took place under a wide variety of circumstances, at different levels of mortality, and in countries that had reached very different levels of socioeconomic development (Knodel and van de Walle 1979). This cast doubt on the theory of the demographic transition. The focus shifted to the timing of the fertility transition, the change from a regime of natural fertility to one of family limitation. A series of methodologies to measure the time of transition were proposed, based on the shape of the pattern of marital fertility (Coale and Trussell 1974) or on the average age of mothers at the time of their last birth (Knodel 1988; Wilson 1984). The Princeton European project proposed a dating of the fertility transition by computing the time when the index of marital fertility had declined by 10% from a predecline plateau (Coale and Watkins 1986). Such a predecline plateau of high fertility has been identified in most countries. For rural France, where the decline started before the existence of vital registration and censuses, David Weir (1994) connected the results of the family reconstitutions made by Louis Henry and his team with the 19th-century statistics and identified the end of the natural fertility regime at a time close to the

French Revolution. If France is excluded, close to 60% of the province-sized administrative areas of Europe experienced their marital fertility decline starting in the 30-year period from 1890 to 1920 (Coale and Treadway 1986:37). The concentration in time, in countries with vastly different economic and social conditions, suggested a common mechanism of ideational transmission rather than an adjustment to socioeconomic pressure.

A number of recent studies have attempted to rehabilitate the notion that marital fertility declined because of an adjustment to economic change, by using more sophisticated econometric models and a lower level of aggregation than the province (Galloway, Hammel, and Lee 1994; Brown and Guinnane 2002). The concept of natural fertility and the methods used for its measurement have been criticized for various reasons, for example, their lack of sensitivity that makes it very difficult to date the transition point with any precision. Low values of *m*, Coale and Trussell's indicator of the prevalence of parity-dependent family limitation, could be compatible with a significant proportion of the population practicing it (Okun 1994). Others have objected to the inability of the model to factor in the spacing of births (rather than the limitation of their number) that appears to characterize many reproductive regimes (Bean, Mineau, and Anderton 1990).

More importantly, controversy continues over the reality of the fertility transition. It has been asserted that there was not one fertility transition, i.e., a single historical movement, but many different transitions, each with its own motivations and characteristics, or even simply a continuous adaptation of fertility levels to local economic opportunities and the level of mortality. Simon Szreter (1996) hypothesized that the decline of fertility in England was the result of abstinence and spacing. There have been efforts to revive the theory of the demographic transition, by linking the secular decline of fertility to a decline of mortality whose effect was only appreciated with a very long lag by married couples (Chesnais 1992).

The concept of natural fertility started as a purely demographic concept, but it has become linked to the history of birth control. Two recent histories of contraception have deemphasized the innovation aspects of the fertility transition by claiming that women at all times had access to methods adequate for their needs (McLaren 1990; Riddle 1992). Janet Farell Brodie (1994), in an exemplary study of contraception and abortion in 19th-century America, has emphasized the extent to which the ideas and the paraphernalia of birth control were diffused in the public by pamphlets, commercial catalogs, advertising in newspapers, conferences, and word of mouth and were eventually stymied at the end of the century by legal interventions and a reversal of public opinion.

Crises of Mortality and the Epidemiologic Transition

Historical demography helped push back the date of reliable mortality data, particularly for infant and child mortality (Schofield, Reher, and Bideau 1991). Population reconstruction provided reliable life tables for the rural French and English population in the 18th century; official statistics for Sweden go back to 1750. These series show a steady decline of mortality from the high and fluctuating levels that prevailed at the earliest dates. In contrast, the decline of infant mortality is less obvious and does not start in earnest before the last decade of the 19th century (Vallin 1991). The prevailing general

descriptive model of secular changes in mortality is that of the epidemiological transition from a stage of dominance by infectious and parasitic diseases to a situation where people die mostly in old age from chronic and degenerative diseases.

The statistical record before 1800 is dominated by peaks of exceptional mortality from crises caused by a mix of food shortages and epidemics (Livi-Bacci 1991). The history of such diseases as the bubonic plague (Biraben 1975), smallpox (Hopkins 1983), syphilis (Arrizabalaga, Henderson, and French 1997; Quetel 1990), or tuberculosis—even in the absence of precise quantitative information on causes of deaths—sheds light on the mechanisms of infection and on attempts at treatment in the past. In the 19th century, the frequency and intensity of crises diminish (Perrenoud 1991), although there are still occasional peaks of mortality in various countries from identifiable causes, such as the cholera epidemics of 1832 and 1856, the potato famine of 1846, and the 1870 smallpox epidemic. The Swedish data show a sharp decline in the frequency and mortality of smallpox epidemics in the 19th century as a result of the adoption of vaccination, the first successful use of preventive health measures against an infectious disease (Sköld 1996).

Two explanations have been given for the importance of infectious diseases in the past and for their decline. In a first explanation, the periodic visitation of diseases, and their establishment in an endemic form, was essentially an exogenous influence, an accident of epidemiology under favorable environmental circumstances. William McNeil (1976) illustrates this position. Disease pools developed in isolated parts of the world and were diffused with a devastating impact when interregional contacts increased, eventually to form a "common market of diseases." Infections such as smallpox and measles decimated the population at the time of first contact, but conferred immunity to their surviving victims and became childhood diseases. The epidemiological transition was the result of an increasing ability of preventive measures (e.g., smallpox vaccination) and the development of hygiene and public health (e.g., sewerage and clean water supply) to combat the infections.

The opposite position has represented the high levels of historical mortality as endogenous, the result of low standards of living and population pressure. The idea of a Malthusian equilibrium where population growth is kept within the bounds of subsistence by the positive check of mortality finds some support in the analysis of the record for Elizabethan England. By the 17th century, however, adjustments seem to occur through the preventive check on marriages (Wrigley and Schofield 1981: chapter 11). Thomas McKeown (1976) has argued that the decline of mortality in England during the 19th century, and hence the modern rise of population, was caused neither by medical innovations nor by an attenuation of the virulence of disease, and therefore must have been the result of better nutrition and an improvement in the standard of living. McKeown downplayed, and probably underestimated, the impact of smallpox inoculation and vaccination and of public health measures in the area of sanitation and water supply.

Whatever the reasons for the increase in expectation of life at birth during the 19th century in Europe and the United States, they do not seem to have operated on infant mortality, which remained practically unchanged before the last decade of the 19th century and then underwent a rapid decline. Although there is no consensus on the reason for this late decline of infant mortality, the most convincing analyses for England (Woods 2000), the United States (Preston and Haines 1991), and France (Rollet-Echalier 1990) suggest that the crucial element was a revolution in public and private attitudes toward the child, combined with new principles of hygiene in the home,

including boiling milk and sterilizing bottles, which represented a breakthrough in the practice of artificial feeding.

The Western European Marriage Pattern and the Structure of Households

In 1965, John Hajnal published a pathbreaking study of European marriage patterns, in which he pointed out the existence of two distinct types of marriage separated roughly by an imaginary line going from Leningrad (as it was then called) to Trieste. The western European countries were characterized, around 1900, by late female marriage (typically above 25 years of age) and extensive celibacy. Eastern Europe, in contrast, had early marriages and high proportions marrying, resulting in higher levels of overall fertility. Hajnal attempted to trace back the temporal origins of the pattern and concluded that it had existed in many countries of western Europe at least since the 17th century. He associated it with an original pattern of household formation: "In Europe it has been necessary for a man to defer marriage until he could establish an independent livelihood adequate to support a family; in other societies the young couple could be incorporated in a larger economic unit, such as a joint family" (Hajnal 1965: 133). Alan Mcfarlane (1986) linked the European pattern of marriage with early capitalism, the dominance of market forces (particularly for the sale of land in private ownership), and the prevalence of wage labor. He believed that these conditions were attained in England by the 13th century and later in other European countries. Research has confirmed that the western European marriage pattern is distinctive, although there are other systems throughout the world where marriage is relatively late and the young couple sets up an independent home. Tokugawa Japan, offered such an example, although permanent celibacy was rare.

In theory, a marriage could only take place when a new couple had the economic resources to allow its independent establishment. The reconstruction of the English population by Wrigley and Schofield (1981) clearly demonstrated the role of nuptiality as the feedback mechanism regulating the growth of population in the 18th century so that it would not exceed the resources available for its support. Favorable real prices and agricultural wages would lead to earlier and more frequent marriages; times of scarcity would lead to the opposite result(for a recent review of the English nuptiality story in a long-term perspective, see Smith 1999). It has been argued that the development of cottage industry, and later the industrial revolution, by providing new opportunities for both male and female wage labor, must have led to younger and more universal marriage (Levine 1977). The evidence from the study of microdata from the 19th century is mixed on this, and the most recent research suggests that many factors regulated the contracting of unions during the 18th and 19th centuries in somewhat conflicting directions, depending on country, region, and the local economic organization (Devos and Kennedy 1999). These factors included the dominant forms of wage labor (e.g., day labor versus living-in servants), employer's control over housing, the intensity of human labor in the prevailing technology, the substitution of cheaper female workers for male workers in some types of production, and the elasticity of the marriage market with respect to increases in the standard of living. In the aggregate, and with some exceptions, the vast expansion of the industrial labor force and the steady increase in wages during the industrial revolution did not produce a commensurate increase in the proportions married before the 20th century in western countries (Coale and Treadway 1986).

The study of household structure from population listings, although at face value outside of the scope of demographic studies, provided one of the missing links in the reconstruction of past societies. It was initiated by Peter Laslett and his colleagues at the Cambridge Group for the History of Population and Social Structure. Household structure is a topic that had received little attention in traditional demography; the household was usually treated simply as a unit of enumeration in the census, without theoretical interest. The common misperception was that families of the past were very large and extended.

A large number of manuscript census listings from the past have been examined, and they show conclusively that with rare exceptions, the conjugal family unit (a man, his wife, and their children) constitutes the basic residential pattern of western populations and that this has been the dominant household structure among the common people of western Europe as far back as the evidence from enumerations will carry (Wall, Robin, and Laslett 1983). Households, as today, were typically limited to the conjugal pair and their children and were therefore small, and the marriage of the children entailed the founding of new households.

RESEARCH EXEMPLARS

From its beginnings in the study of the fertility and mortality of individuals, historical demography has evolved steadily toward the consideration of entire social structures and their dynamics in time and space. In this section, we consider two exemplars of research on opposite sides of this continuum between the micro- and macrodemographic focuses. The first example indicates how the study of individual records from village populations of the past can be made to yield surprisingly revealing evidence of individual behavior. The second illustrates the study of large populations as demographic systems where the impact of social and economic forces plays out in combination with marriage customs, rules of inheritance, and patterns of employment on a climatic and epidemiological backcloth.

Microdemography: Knodel and the German Family Genealogies

John Knodel, one of the members of the European fertility project who had analyzed the aggregate statistics for Germany during the 19th century (Knodel 1974), set out to explore the local features of fertility and mortality changes at the microlevel with the help of a remarkable source: village genealogies compiled by local German historians and genealogists on the basis of official statistics and church records and encompassing the vital events of all families that resided in a particular village. The data analyzed by Knodel comprise 14 villages and cover over 11,000 couples married between 1700 and 1899, and their 55,000 children (Knodel 1988: 20). They appear to be of high quality and completeness and allow remarkably detailed and sophisticated analysis on the basis of a large number of cases.

Knodel devotes a considerable part of his attention to issues of measurement and definition, looking for the best way of teasing out relevant sociological or biological indices to explain the findings. In addition to the measurement of fertility and child

mortality that we shall discuss further below, his analyses pertain to such topics, among others, as the seasonality of vital events, maternal mortality, marriage, widowhood and remarriage, bridal pregnancies, prenuptial births and illegitimacy, along with their relevant differentials by region, social class, and religion. The approach focuses on individuals and families, and the social and economic structure of Germany is only treated in passing.

Infant and child mortality levels showed little evidence of a trend before 1900, but there were important differentials between the villages that are part of the sample. Infant mortality was highest in Bavarian villages and lowest in East Frisian villages, with Baden and Waldeck villages occupying an intermediary position. There was direct survey evidence, collected in the late 19th century to investigate mortality differentials, that women avoided breast-feeding their children in Bavaria and in other parts of southern Germany. This suggested that child feeding patterns provided an explanation of mortality differentials. Two analytical techniques confirmed such an explanation. First, the interval between confinements was considerably reduced in Waldeck and the East Frisian Villages when the first child had died during the first month of life, a circumstance that would interrupt suckling in populations that would commonly practice breastfeeding. In Bavaria, however, the reduction corresponded only to the expected duration of the nonsusceptible period after a birth (Knodel 1988: 547). A second confirmation of the role of infant feeding came with the use of a biometric technique devised by the French demographer Jean Bourgeois-Pichat in 1952 to isolate the effect of endogenous mortality (i.e., deaths linked to the lack of viability of the child and to the risks of delivery) from later mortality during the first year of life. The technique uses a mathematical scale to linearize the cumulated number of deaths by month; the intersect of the line with the vertical axis for age zero provides an estimate of endogenous mortality, while the slope measures exogenous mortality. For the German villages, endogenous mortality is rather uniform, but the points line up in the expected manner only for the East Frisian villages. For Waldeck, they deviate upward in a way that suggests excess mortality at the end of the first year, often associated with weaning after six to nine months. For Bavaria, on the contrary, the slope of the line is very steep and deviates downward; this would be a pattern in which mortality rises steeply during the early months of infancy but becomes more normal in later months (Knodel 1988: 52).

Knodel was initially drawn to the topic of breast-feeding by his concern for explaining differentials in natural fertility before the onset of the secular fertility transition. Bavaria, with its customary avoidance of nursing, had one of the highest fertility rates in Europe as well as very high mortality. Other factors affecting fecundity prior to the advent of birth control are less easy to identify, although there was a clear, and in some villages considerable, rise in fecundability between the mid-18th and the mid-19th century, perhaps as a result of changes in nutrition during that period (Knodel 1988: 285–286). This rise makes it more difficult to identify the time of the beginning of the fertility transition because it operates in the opposite direction of the effect of family limitation to maintain relatively stable levels of aggregate marital fertility (as measured for instance by the index I_g). Knodel uses other indexes to date the beginnings of family limitation: the Coale-Trussel m index of family limitation based on the age pattern of marital fertility; the age of mother at last birth; and parity progression probabilities. The analysis leads to the conclusion that the villages differed greatly in the date when family limitation appeared and that it became noticeable in some regions at the beginning of

the 19th century (Knodel 1988: 317). There was little evidence of effective spacing of births (Knodel 1988: 348).

A recurrent theme in demography has been the relation between child mortality and reproductive behavior. The decline of fertility occurs generally earlier than that of child mortality, which remains high until the end of the century and is therefore unlikely to have been a factor in the fertility transition. As expected within a natural fertility framework, Knodel finds little evidence of replacement of a dead child before the decline of fertility. Toward the end of the period, he finds that the behavior of couples conforms to a parity-specific adaptation of reproductive behavior: those experiencing high mortality are less likely to use family limitation (Knodel 1988: 440–442).

Macrodemography: The Cambridge Group and the Social History of England

The descriptive work of Louis Henry and his colleagues and European epigones had shown that fertility in the past was high, that mortality was dominated by crises, that marriage was late and permanent celibacy frequent. Michael Flinn (1981) attempted a description of these elements as a "demographic system." The great merit of the Cambridge Group was to place that system in the historical context of an economy and a society, *The World We Have Lost* to use the title of Peter Laslett's influential work of 1965. "The fascination of work on population history stems from its central position in the fabric of social and economic life in the past" (Wrigley and Schofield 1981: 483). The true monument in this enterprise was the reconstruction of the English population between 1541 and 1871, which has served as the sturdy trunk on which various other studies of the socioeconomic structure of England could be grafted. It is significant that the work of the Cambridge Group that involved family reconstitution (Wrigley et al. 1997) was published much later and has received less attention. The project was an example of team work, not only by the close association of Wrigley and Schofield with other historians and demographers at the Cambridge Group, but also by their reliance on local historians for the collection and analysis of parish data and the use that independent researchers have made of their data.

Wrigley wrote about Malthus, and edited his complete works. In his work with Roger Schofield (1981), he followed in the footsteps of Malthus in exploring the interaction of the demographic and the socioeconomic systems and in demonstrating the relevance of behavior at the individual and family levels to explain the great secular waves of aggregate population growth in England. In the concluding chapter of *The Population History of England* (fittingly subtitled "a dynamic model of population and environment"), the authors present a schematic view of a homeostatic population equilibrium in the Malthusian tradition, first through the operation of the positive check of mortality, and second through that of the preventive check of marital restraint (Wrigley and Schofield 1981: 457–480). The central element in the model consists of a feedback loop where favorable food prices and the resulting real wages make it easier to contract marriages and hence increase fertility and population size. This in turn causes scarcity of food, increasing food prices and reducing real wages, thus reestablishing the equilibrium. Because the impact of nuptiality on fertility and population size takes a long time to work itself out, sizable lags are expected in the interaction of the variables. Moreover, there are secondary feedback loops that complicate the picture: through mortality in the early stage of the model corresponding to the Elizabethan period, and

through the demand for labor outside of agriculture that becomes important during the stage corresponding to the industrial revolution. The examination of series of a real-wage index and crude marriage rates suggest indeed that the two series are correlated, with a lag.

The work raises the question of the uniqueness of the English situation. In an article published two years after the monumental *Population History of England,* Wrigley (1983) resolved the following "conundrums": Why was the growth of the English population during the 18th century faster than that of other countries of western Europe, and accelerating? Was it due to a decline of mortality or to a rise in fertility? The reconstruction of the population suggested that the expectation of life at birth had increased from 32.4 years in the 1670s and 1680s to 38.7 in the 1810s and 1820s, while the gross reproduction rate increased from 1.98 to 2.94. The fertility increase contributes two and a half times as much as the decline of mortality to the increase in the growth rate. To account for the fertility rise, the main proximate determinant was nuptiality.

The fundamental role played by nuptiality (both the age at marriage and the proportion never marrying) is indeed the most important finding, and it served as a unifying principle for many streams of research on the population of England and, consequently, of Europe, from Hajnal's European marriage pattern to Laslett's household constancy over time. It lies smack in the Malthusian tradition, and its focus is on secular changes.

FUTURE PROSPECTS

Historical demography has joined the mainstream of population studies. Techniques and explanatory frameworks have been exchanged liberally between historical demography and the rest of the field. The exchanges have been most active with the demography of developing countries, a topic that was also underrepresented in *The Study of Population* (Hauser and Duncan 1959). It is not uncommon to see scholars specializing alternatively in the study of a developing country and of a historical period of a western nation.

The field has clear limitations. It relies on unreliable data rife with bias. This means that an unusually large portion of the writing is devoted to methodological discussions and the description of esoteric techniques designed to circumvent bias. It also means that large segments of the population are unobservable and that some parts of the lives of individuals are better covered than others: the mortality of children and the fertile life of women. The classic family reconstitution techniques that use parish records typically only cover less than a third of the population consisting of stable families that spent all their life in the village. More than most other fields, historical demography is data-bound and must be content with the accidental inclusion of a variable in a data set collected for entirely different purposes. Although there have been occasional attempts to interview old people on a significant event of their youth (such as the use of contraception in past cohorts; see, for example, Fisher 2000) there is usually no way to design a questionnaire or assemble a panel the way it is increasingly done in the other social sciences with which demography is associated.

The reliance on data sets of the past means also that geographical coverage will be spotty. Some countries and some periods of history are inaccessible to the researcher and likely will remain so. This means, among other things, that no entirely satisfactory

history of the world population can be written. The most satisfying attempt to do so was written by Massimo Livi-Bacci (1992), and it limits itself to general mechanisms and examples. Even the attempt to write a population history of Europe (Bardet and Dupâquier 1997), the continent where the sources are most abundant, is only partly successful because of the difficulty of integrating the points of views and the methodologies over the long term. Because of the particular nature of the North American sources, the field of historical demography remains small in the U.S. The journal *Demography* does not have a steady flow of articles on historical subjects, as do its European competitors, *Population Studies* and *Population*.

Perhaps the age of the pioneers is over and the most significant achievements of historical demography are behind us, as the most important sources have been analyzed and the general characteristics of past populations have been described. Of course, the field will continue to integrate the most advanced statistical methodologies, as witnessed by many of the chapters in a recent book on *Old and Recent Methods in Historical Demography* (Reher and Schofield 1993; see also Willigan and Lynch 1982). The history of population is going to evolve in the same way as the rest of demography. There is likely to be increasing cross-fertilization, with methods from historical demography carried over into mainstream demography of the present, and the new developments of demography adapted to the study of the limited records from the past.

It would be bold to try to predict exactly what approaches are likely to be used in the future and what discoveries will be made. In this section, we consider some possible directions of future research. First, explorations of new countries will take place and extensions back in time. The study of Chinese genealogies suggests that the past is not uniform, characterized by an undifferentiated regime dominated by the biological constraints of natural fertility and mortality from infectious diseases. The Chinese demographic regime, so it is argued, was grounded in collective social relations that are distinctly different from the individualistic behavior of Europe (Lee and Feng 1999). Infanticide was a significant check on population growth, and marital fertility appears to have been low, perhaps because of a higher degree of voluntary control. Other studies have suggested that mortality in China and Japan was less subject to the crises that buffeted the European regime (Zhao 1997; Jannetta 1987). A great attraction of historical demography is the opportunity it provides to investigate other data sets, other cultures, other epidemiological contexts. Each different data set may include its own fascinating set of questions, encountered nowhere else, that allow novel analyses. For example, the Taiwanese population registers recorded data on foot binding, which makes it possible to ascertain the ethnic group and the extent of female labor, as women with deformed feet cannot work in the fields (Wolf and Chuang 1994).

A second and related trend is the attention to a more comparative approach that would bring out the differences as well as the commonalities in widely separate countries. The Eurasian Project on the History of Population and Family, initiated by Akira Hayami in 1994, has been engaged in the comparative study of social organization and demographic processes at the family level in five research cites: southern Sweden, eastern Belgium, northern Italy, northeastern Japan and northeastern China (Bengtsson et al. 2004). Remarkably, the project has adopted a Malthusian paradigm, like that of the Cambridge group.

A third tendency is the design of studies that are less monographic than in the past but aim at examining particular substantive issues. A good example is a recent study of the relative impact of Protestantism and Catholicism on the demography of Alsace

during the 19th century (McQuillan 1999). The study presents hypotheses based on the doctrinal differences between the traditional position of the Catholic Church toward the married state as an inferior status and Luther's recognition of sexuality as a fundamental human value. It attempts to test these hypotheses by using a combination of nominative and aggregate techniques in a carefully selected sample of villages. It investigates the history of pastoral practices and of the relations between church and state in the educational systems of the two communities. It concludes that doctrinal differences (particularly with respect to marriage) were less important in shaping the behavior of the Lutheran and Catholic communities than the openness of the hierarchies to modernity in the former and the conservatism of the latter. This accounts for a later decline of fertility in Catholic villages, a development that may have its parallels in other countries of mixed confessions like Ireland and Canada.

These are the new challenges. In the several decades that have elapsed since Duncan and Hauser made their pessimistic assessment in 1959, historical demography has gained an honorable status among the specialties that constitute the discipline of demography. The future of the discipline lies in its integration into a broader synthesis of the history of society and the family.

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