1.1 The fast-changing demography of England and Wales, c. 1880–1920

Profound social and demographic changes were underway within British society as the nineteenth century waned. The four decades straddling Queen Victoria’s epoch-closing demise in 1901 were witness to the dawning of a new era in the nation’s family life. Marriage patterns, birth rates, infant and child mortality, family sizes, sexual behaviour and sexual attitudes, the position of the elderly, and the typical compositions of households in terms of children, servants and boarders, were all changing relatively rapidly between the late-1870s and the 1920s, when compared with the preceding and succeeding half-centuries.

This is reflected in strong movements of the basic demographic indices. Whereas the crude death rate of England and Wales had remained fairly constant, somewhat above 20 deaths per thousand persons, since civil vital registration began in 1837, from 1881 it fell continually to a figure of 14 per thousand by 1910–12 and 12 per thousand by 1920–2, after which the rate of decline slowed markedly.1 Similarly, the crude birth rate, having fluctuated quite substantially, between rates of 32 and 37 per thousand persons since 1837, fell unambiguously from the late 1870s, to a figure of just under 25 per thousand by 1911, subsequently settling at a level of just over 15 per thousand throughout the 1930s.2 Figure 1.1.1 shows these general trends within a wider chronological context.

Of course, different regions and localities varied enormously, as this volume will strive to emphasise, but the scale of the general trends also needs to be appreciated. For instance, among those married women born between 1851 and 1855, over one-third experienced at least seven live births and as many as 15 per cent had ten or more confinements.
Fig. 1.1.1 Fertility and mortality trends in England and Wales, 1838–1937: crude birth rate, crude death rate and infant mortality. Source: Mitchell (1988), Tables D4, D10 and F3.
during the course of their lives. But of those women born half a century later, between 1901 and 1905, less than 5 per cent of those who married had seven or more children and only 1 per cent had ten or more. Sixteen per cent of the earlier cohort and 21 per cent of the later cohort were childless. Whereas 15 per cent of the former had only one or two children, almost 50 per cent of the latter cohort had families of this small size.

The kinship simulation calculations of Zhao, based on data from the 1911 and 1961 censuses of England and Wales, have demonstrated how these demographic changes had important implications for the typical pattern of family life and individuals’ personal experiences. Grandparenthood or, reciprocally, the experience of knowing one’s grandparents, is a good example of this. Only 34 per cent of the women born in the 1850s still had both parents alive in the 1880s when they themselves were in their thirties and bringing up young families; but over 60 per cent were in this position among those born in the 1900s and bringing up their families in the 1930s.\(^3\) Contrary to popular assumptions that grandparents are now less involved with their children’s families than in the past, the simulations show that full and active grandparenthood has only become a general demographic possibility relatively recently. The capacity of parents with young children to call on their own parents for assistance during the child rearing years and the possibility of children learning from and coming to know their own grandparents was a rarity in the mid-nineteenth century; it only became a common possibility in the twentieth century. Change also engulfed the experience of the grandparental generation. Of those women from the 1850s birth cohort who survived to be 75, over half would have more than five living grandchildren. Among the women from the 1900 birth cohort surviving to the same age, fewer than 14 per cent had such a large number of grandchildren. More than half of this generation had no grandchildren to help celebrate their seventy-fifth birthday; indeed, 43 per cent had no children with whom to celebrate. Among the cohort from the 1850s the equivalent figures were, respectively, about 35 per cent and 31 per cent.

The dramatic fertility and mortality changes occurring during the three to four decades preceding the Great War were thus exerting a range of powerful short-, medium- and long-term effects on family life, individual experience and society. In combination, the changes created an inter-war Brave New World of ‘demographic certainty’, a society where individuals found themselves relatively emancipated from the natural caprices of birth and death, probably for the first time in human history.\(^4\) The present volume is a further contribution towards the
academic enterprise of attempting to understand and explain how and why these fundamental demographic shifts occurred. The ensuing study focuses in particular on fertility change and that dimension of mortality change which has been most closely related to fertility: deaths among infants and children.

1.2 Demography, national anxiety and the 1911 census

For the present study, among many others, the most important materials for studying these historical demographic phenomena in England and Wales remain the official products of the General Register Office (GRO), the department of state responsible for administering the nation’s vital registration system and its decennial population census. By the Edwardian era the nation’s decennial census had been in regular operation for just over a century, having been in the capable hands of the GRO from the beginning of Victoria’s reign.5

The GRO quite justifiably long enjoyed a reputation for demographic and epidemiological expertise of a high order. It always did much more than just manage the mammoth intelligence exercise of the collection of registration and census data, as stipulated in the relevant Acts of Parliament governing its duties. The GRO very quickly established itself as the principal analyst and interpreter of the nation’s changing demographic and epidemiological patterns.6 Until the inter-war period it was staffed by an unbroken succession of extraordinarily able, medically trained statisticians, each with a profound interest in the promotion of the environmentalist, preventive public health programme, in which they had typically served an apprenticeship as a local Medical Officer of Health (MOH). The GRO’s analytical capacity with respect to epidemiological change was therefore highly developed by the beginning of the twentieth century. In that same era, however, the GRO’s officials, as the nation’s medical and social scientific experts on population questions, found themselves inadequately equipped in terms of statistical tools, available data and relevant knowledge to analyse and comprehend the increasingly obvious downward plunge of the national birth rate.

In the 1880s and 1890s there had been an upsurge of concern over a set of long-standing worries about the ‘degenerating’ effects of urban existence on the human organism. This came to a head in the Edwardian decade as the nation underwent a prolonged bout of public soul-searching in the wake of the South African Wars of 1899–1902. The great British Empire had found itself militarily humbled at the hands of the Boer farmers and, with bizarre logic, placed the blame for this ignominy not
on defective military leadership or ineffectively conducted campaigns but on the poor physical quality of those members of the working classes who did not fight. The high rejection rates of those trying to enlist at urban recruiting stations was seen to be symptomatic of a withering of vitality and virility which was undermining ‘national efficiency’, a sign that the ‘lower orders’ with their high fertility, poor child survival rates and low standards of health were reducing the average Briton’s physical and mental prowess.7

Explanations and remedies for this state of affairs divided into two main camps. Hereditarian eugenicists argued that the higher infant and child mortality among the urban poor reflected their deficient biological stock. To achieve ‘national efficiency’, the hereditarians argued, the state must abandon expensive ameliorative social policies towards the poor. Instead, this strata of society should be discouraged from reproducing themselves, while the wealthy should be given greater incentives to increase the number of their children in order to increase the average quality of the nation once more. Karl Pearson in particular brought this line of thought to public attention, highlighting the class-differential aspect of both the infant mortality and the birth rates.8

In opposition to these views stood the environmentalists who argued that the high mortality, deficient health and physical development, poor learning capacities and large families of the poor all resulted from the harsh and insecure urban industrial environment in which so many lived. The public health movement of the Edwardian era had well over half a century of work based on such environmentalist thinking behind it.9 The nascent systems of social, medical and educational services put in place through the efforts of the movement were now being derided by their eugenic opponents as a waste of public money. The public health officials thus had strong political motivation to test and refute eugenic views. The Registrar-General, W. C. Dunbar, the Chief Medical Officer of the Local Government Board, Arthur Newsholme, and the Chief Superintendents of Statistics at the GRO, John Tatham and T. H. C. Stevenson, all took great pains over the first decade of the century to perfect various demographic measuring techniques, both to increase their own understanding and to provide counter-arguments to the eugenicists’ claims.10 In so doing they collated and analysed the most important sources of demographic information available for studying changes in infant and child survival and fertility behaviour, and planned the 1911 census inquiry.

In 1911, following the 1900 census of the USA and the New South Wales census of 1901, and in tandem with the census of Scotland and Ireland, the census of England and Wales carried a new suite of
questions. As shown in Figure 1.2.1, these directed every married woman enumerated to return the duration of her current marriage, the number of children she had borne alive within that marriage and the number of those children who had subsequently died. Unsurprisingly, these questions earned the census of 1911 the sobriquet of the ‘Fertility Census’.

The hereditarian–environmentalist debate pervaded the thinking of those designing the collection, analysis and reporting of the responses to the questions concerning family building experience in the Fertility Census. As a result, the terms of reference of this argument have remained embedded within our understanding of the declines in fertility and infant and child mortality ever since, because the official tabulations in the published reports, previously the only access to the 1911 data, inevitably reflect the contemporary intellectual agenda. In addition, the national scope of the 1911 survey and the relatively detailed nature of its findings have always endowed its results with great

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### Fig. 1.2.1 The form of the questions concerning the fertility of marriage as presented in the census schedule for England and Wales, 1911. Source: 1911 Census of England and Wales (1917), General report, Appendix A.
authority, overshadowing subsequent studies exploring alternative sources of demographic information.

It has long been recognised that the 1911 census returns represent, for Britain, the most important and comprehensive body of historical demographic evidence compiled for the study of changing fertility, nuptiality and mortality among the young during the period before the Great War. In England and Wales present law prohibits public access to the original individual-level census returns for a century after their collection. Previously, therefore, students have had to content themselves with secondary analysis of the official tabulations published by the GRO. Thanks to the interest and persistence of Stevenson, the GRO’s chief statistician at the time, a great deal of extremely valuable material from the 1911 census was abstracted and published in two volumes: an interim report presenting results in tabular form was published in 1917, while a much lengthier, more exhaustive and analytic report came out in 1923. As a form of shorthand these are referred to as the Fertility of marriage report, Parts I and II throughout the ensuing text. Much can be and has been done with this and with other related official evidence – work which is briefly surveyed in the ensuing historiographical review – but conclusive and rigorous analysis and verification of various hypotheses concerning the detailed course of demographic change during this period necessarily awaits direct access to the original household enumeration records from the 1911 census, scheduled to be released into the public domain on 2 January 2012.

In the mid-1980s, however, the Cambridge Group was able to commission the production of abstracts of a sample of anonymised individual-level returns drawn from the 1891, 1901, 1911 and 1921 Census of England and Wales from the Office of Population Censuses and Surveys (OPCS) which were provided on magnetic tape. Names and addresses were not provided in the abstracts, and members of the Group working with OPCS at the time were required to sign the Official Secrets Act. The abstracts were provided only for research carried out by the Group and remained in its custody at all times. The abstracts have now been returned to the Office for National Statistics, successor to OPCS. The early release of a certain amount of data from the 1911 Fertility Census, drawn from 13 localities across England and Wales, provides the opportunity to examine afresh the evidence for demographic change at the level of the individual couple and the community. Furthermore, since parents were asked by the 1911 census to record not only the number of children ever born to their current marriage but also the number who had subsequently died, their answers provide retrospective data which allow analysis of comparative levels and
trends in infant and child mortality as well as fertility. The ability of the present study to use individual-level data largely overcomes the limitations associated with analysis based on ecological correlations often encountered by previous studies based on the published 1911 census tabulations. This study will be able to demonstrate some of the kinds of insights which the original census returns permit above and beyond those detailed in the published reports. The two facets of the original inquiry, infant and child mortality and marital fertility, are examined separately in the following chapters; a convention followed in the historiographical sections below.

1.3 A new approach to infant and child mortality – the historiographical context

The study of fertility and mortality change has, of course, attracted an enormous range and volume of contributions over the course of the twentieth century, beginning with the preoccupations of the contemporary social commentators, academics and officials discussed in the previous section. Within this field the idea of demographic transition has been a long-lived and influential model. In its classic formulation, published by F. W. Notestein in 1945, it emerged as a well-elaborated, comprehensive and testable theory which provided an integrated account of both mortality and fertility change, with economic growth providing the prime mover. However, it has long been acknowledged that the well-documented historical populations of France, USA and Hungary all refuted one of the theory’s central specifications – that mortality fell before fertility. Furthermore, in Britain’s case it has always been considered a major embarrassment for the theory that fertility appears to have fallen long before infant mortality. Since the demise of transition theory no other thesis has succeeded in commanding attention in the same way. The term demographic transition has therefore continued to be used to refer to the two principal dimensions of modern demographic change, fertility and mortality decline, but in practice they have been studied for many decades as quite distinct processes, each with its own separate literature. Moreover, the study of infant mortality has been substantially conducted as a specialist subject in its own right, reflecting its quite distinctive aetiology and epidemiological patterns.

The aim of explaining the overall mortality decline at all ages has continued to attract grandiose theories, such as the McKeown thesis of nutritional determinism. But the effort to understand changing patterns of death specifically among the very young has been characterised by a more inductive and exploratory approach. Such research has exam-
ined a wide range of theses, principally including the role of the follow-
ing factors: poverty, class, overcrowding, maternal and infant nutrition, inadequacy of domestic hygiene facilities and feeding practices, sanitary state of the wider environment outside the home, breast-feeding, general child care and its interaction with female working practices, and family size and frequency of childbearing. In the attempt to throw light on the relative importance of these various factors much effort has been devoted by a number of scholars to careful statistical inference from a range of comparative epidemiological data. The changing infant and child mortality rates of various different populations have therefore been compared: the Registrar-General’s social classes, urban versus rural rates, distinct regions of the country, socially different parts of the same city, and different kinds of city.16 Other studies have shown that the distinct child rearing and feeding practices of different ethnic groups can substantially influence mortality among the young – a classic example being the low fatality rate of immigrant Jews in London’s East End, regardless of exposure to a whole battery of the negative influences most strongly implicated elsewhere.17 Woods and his colleagues have maintained that a very wide range of factors were all involved in explaining infant mortality change; and, in a complete inversion of classic demographic transition theory, they have even suggested that falling fertility may also have been a factor, enhancing survivorship chances in smaller, more widely spaced families.18

By contrast, in their major comparative study of the USA and England and Wales Preston and Haines indicated that social class differentials were the most significant determinants of infant mortality in England and Wales, whereas other factors were more important in the USA. They used published data from the census of 1911 of England and Wales to analyse infant mortality differentials between the Registrar-General’s social classes along with a range of socio-economic variables.19 In a separate publication Haines appeared to show that these class differentials had been widening down to 1911.20 The authors did, however, point out that they suspected these social class findings might be reflecting the influence of various spatial factors, such as residential segregation, but were not able to pursue this possibility further.21 This is certainly one aspect of analysis on which the present study has been able to cast significantly greater light.

The likely significance of spatial factors has already been indicated by Watterson, who analysed different tabulations from the 1911 census publications, according to place of residence.22 Watterson found important differentials between urban and rural populations but, furthermore, argued that type of urban place appeared to be of considerable
significance, suggesting that the more industrial a town, the less healthy it was. This approach is further developed in chapters 4 and 6 of the present study through the application of a typology of ‘environments’, enabling the largely urban population of early twentieth-century England and Wales to be classified according to its local occupational and industrial complexion. Using this scheme it has been possible to demonstrate that the suspicions both of Preston and Haines and of Watterson, regarding the greater significance of residential environment rather than class affiliation according to the Registrar-General’s social classification scheme, are indeed well founded. A multiple regression analysis finds that the new analytical category of ‘environment’ is consistently able to explain more variance in infant and child mortality than the Registrar-General’s social classes.

In chapter 6 the published, tabulated census material for the whole population of England and Wales is re-examined, applying an ‘environmental’ analysis to the urban and rural patterns of infant and child mortality in the very early twentieth century. Some interesting perspectives on the overall geography of mortality among the young are produced, and the chapter emphasises the greater quantitative importance of the populous and often very unhealthy regions of Lancashire and West Yorkshire, dominated by the classic staple industries of textiles, mining, engineering and metal founding, over the less industrialised capital city of London, in influencing trends in the nation’s mortality rates during this period. It can also be shown through this approach that London was not in fact as healthy as some contemporary observers seemed to believe.

It has also proved possible, using the individual-level census data, to examine rigorously a favourite thesis among many contemporary Edwardian analysts of infant mortality: the supposed negative effects of maternal employment on infant mortality rates. The research reported in chapters 4 and 5 concludes that figures supporting the ‘maternal employment hypothesis’ published in the 1911 Fertility of marriage report (and also the putative finding by Haines of widening class differentials in mortality among the young) are essentially the product of statistical artefacts in a retrospective source such as the 1911 census.

1.4 Fertility and nuptiality – debates and description

Where the study of change and variation in human fertility is concerned the output from both historians and social scientists since the Second World War has been very substantial, even if only those works strictly relevant to British history are considered. This brief introduction does