Introduction to my personal website: peterrazzell.co.uk

I have included in this website all my writings and publications since my first publication in 1963. Recent publications include two new papers on Shakespeare. They cover radical new ideas about his biography, including evidence on how he achieved the cultural knowledge to write the plays, as well as explaining his whereabouts during the so-called "lost years".

My new paper – 'Population growth and the development of capitalism in England, 1550-1850' – summarizes my work and thinking on the role of population change in economic development, presenting a thesis of 'demographic determinism', shaped by disease patterns during a period of three centuries.[1]

I graduated with a degree in social science from Birmingham University in 1961, specializing in sociology. My first publication – *The Social Origins of Army Officers* – was based on research carried out at Chicago University, and laid the foundation for much of my subsequent work. I had found that there was a significant increase in the number of gentry and aristocratic officers entering the British army during the late eighteenth and early nineteenth century. This appeared to be linked to a major growth in life expectancy among these groups from the mid-eighteenth century onwards.

This raised the question of why mortality had reduced among the wealthy and led me to explore the role of smallpox inoculation, which formed the basis of my Ph.D. thesis. However, subsequent research indicated that inoculation could only be one of the reasons for the reduction in the death rate, as new evidence revealed that there was major fall in adult mortality in England – approximately halving between the beginning and end of the eighteenth century – well before the widespread practice of inoculation. Given that the fall in the number of deaths occurred among all socio-economic groups in all areas of the country, this suggested that there had been an exogenous reduction in overall disease virulence.

Nevertheless, there is evidence that case fatality rates of one disease – smallpox – increased very significantly during the period between the sixteenth and the nineteenth century. For example, less than five per cent of children died from the disease in London during the sixteenth century, whereas by the end of the nineteenth this had increased to nearly forty-five per cent among children unprotected by vaccination. However, the pattern of smallpox mortality is very complex: it was a disease of both adults and children in the south of England, but affected only young children in the north. Case fatality rates were much higher among very young children and elderly adults, making it difficult to assess overall mortality. Inoculation was practised much more widely in the south of England than in the north, probably as a result of panic responses from adults who were affected by the disease.

This website also includes specific studies of smallpox, such as its impact on average height, as well as the reduction of adult smallpox mortality in London during the late eighteenth century. Additionally, I have published evidence to show that Jenner's

[1] For an up-to-date and comprehensive analysis of the role of disease in history see J. Kennedy, *Pathogenesis: How Germs Made History*, 2023.

vaccination was a more attenuated form of the old inoculation, a topic requiring very detailed and complex research.

My subsequent work indicated that overall infant and child mortality fell from the mid-eighteenth century onwards, first among the wealthy and only later among the general population. This was probably the result of a number of factors: the practice of smallpox inoculation, better personal hygiene and improved environmental and midwifery practices. However, by the late nineteenth century there appears to have been little or no social gradient in infant mortality, although it did exist among young children. Additionally, there is limited evidence to suggest that there was a similar lack of a class gradient amongst adults in the 1880s, although such gradients did emerge in the twentieth century both for infants and adults.

My research on the Hertfordshire Health Visitors Register used by Barker in his work on his 'fetal origins' hypothesis indicates that there was no correlation between poverty and birth weight in the 1920s and 1930s, although there was a strong association between poverty and weight gain in the first year of life.

Although Malthus in his theoretical writings emphasized the impact of economic changes on fertility levels, in his work on England he concluded that the prime reason for England's population growth in the eighteenth and early nineteenth century was a reduction in mortality, due to a decline in infectious diseases and improved personal and public hygiene.

My research has largely confirmed the above conclusions, although the pattern of mortality and fertility change appears to be more complex than was previously envisaged. The age of marriage of women in England in the first half of the eighteenth century was significantly higher amongst poor labourers than amongst the wealthy, but this changed radically after the middle of the century. The aristocracy, gentry and other wealthy groups began to marry much later, and the poor much earlier, so that by the end of the nineteenth century there was a marked socio-economic gradient in marriage ages.

Research using a number of different sources indicates that marriage in England was nearly universal during the sixteenth and seventeenth centuries. However, the proportion of women marrying declined significantly in the eighteenth century onwards. This was linked to socio-economic status and the growth of literacy, which had an impact on fertility levels. By the early nineteenth century fertility was much higher amongst the poor than the wealthy, indicating that the fertility transition first took place amongst the wealthy in the eighteenth century.

These marriage patterns were probably largely the result of the mortality changes summarized above. The wealthy no longer had to marry very early and so frequently because of the significant reduction in mortality, whereas the number of labourers had increased as a result of growing life expectancy, resulting in a surplus of labour and increased poverty and pauperization. Malthus described the need for an improved living standard for labourers in order to achieve the higher aspirations and literacy necessary for the reduction of early marriage.

I have explored in detail the population history of England, focussing on the reliability of parish register data. Historical demography like other social sciences – including economic history – became increasingly focussed from the 1960s onwards on the use of mathematical models. My research led me to conclude that these models were flawed because of the unrealistic assumptions that they made about key variables, and that the only way to address this problem was to adopt a strategy of methodological triangulation. This was the main method used for evaluating parish register reliability. It was also used to address the problem of measuring socio-economic status: there are several papers on the website that deal with this issue by comparing occupational classifications of individual families with the number of domestic servants, the rateable value of households and the use of private/public doctors.

I accepted that social science was a part of the natural sciences – see my papers on *The Problem of Determinism*, Max Weber's *Protestant Ethic*, as well as *Max Weber and Environmental Determinism* on this website – but there needed to be a rigorous examination of the reliability of all variables when attempting to explain historical phenomena.

My research indicates that mortality rather than fertility was the key variable for explaining population change, and that this was fuelled by shifts in disease patterns rather than variations in per capita consumption of food. This led to the conclusion that population was largely an exogenous variable in economic and social development, a theme explored in a number of the publications and writings on this website.

This conclusion has radical implications for the study of both economic and social history. A well-documented example is the impact of plague on medieval society. The shortage of labour in the fourteenth century forced up wages, and the attempt of the government to restrain wages was probably a major factor in the peasant's revolt during that period.

The role of surplus labour in the growth of capitalism has long been recognized, but this was seen by Marx and others as a result of economic development. By contrast, the demographic creation of labour surpluses through population growth played a key role in capitalist development in England during the seventeenth and the nineteenth centuries. These were periods when an excess of labour drove down wages and increased prices and the wealth of the owners of capital, creating both an increase in socio-economic inequality and political change.

A number of papers on this website address this theme. During the late sixteenth and first half of the seventeenth century population had grown largely as a result of the gradual disappearance of plague. This led to increasing property prices due to increased demand for food and other consumer goods. There was a marked rise in the wealth of yeomen farmers at this time, and along with tradesmen they became increasingly literate. These groups formed the backbone of Cromwell's New Model Army, playing a major role in the English civil war.

Traditionally England had not relied on a standing army but used the navy as the chief form of defence against external attacks. This was possible because of its

geographical position as an island, which had a major impact on its economic and social history. On the continent of Europe, standing armies had developed because of the threat of land-based attacks, which strengthened authoritarian regimes and the power of monarchies. English kings relied on militias, which resulted in a limited ability to impose taxes and control the economy. As a result, a culture of individualism grew up, particularly in areas outside the manorial control of the aristocracy and gentry.

My book on Shakespeare can also be seen in the context of these developments. Shakespeare participated in some of the economic activities of his father, who exploited current economic conditions in the late sixteenth century by illegally practising money lending, the sale of wool, and the hoarding of grain. Such traders were a part of a sophisticated group of independent merchants who travelled widely throughout England, putting on plays in inns and other venues and providing the cultural background for the writing of Shakespeare's plays.

The later period of the late eighteenth and early nineteenth century saw changes in access to elite occupations and the increasing pauperization of labourers as a result of population growth. This resulted in the growth of inequality and political radicalism during the French revolutionary period.

I have also presented evidence to show that current world population developments in Asia have had a major impact on economic and political conditions in England, Europe and the United States. Mortality fell sharply in China and elsewhere in Asia in spite of famines from the 1970s onwards, mainly because of the application of modern medicine and the growth of improved personal and public hygiene. This resulted in an explosion of population, which provided the basis for surplus labour, exploited by Asian companies to manufacture cheap goods and export them to European and American countries. That has led to the erosion of manufacturing industries in these countries, resulting in economic inequality and the rise of populism in rustbelt areas.

Demography has been seen traditionally by economists and other social scientists as a function of economics, but this website presents detailed evidence to show that it has acted as an independent force largely through changes in disease patterns, helping to shape the world's economic and social development.

Peter Razzell