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Stress

A 1794 biographer commenting on the angina pectoris suffered by John Hunter, the distinguished experimentalist, surgeon and pathologist, wrote, "It is a curious circumstance that the first attack of these complaints was produced by an affection of the mind and every future return of any consequence arose from the same cause". John Hunter himself remarked prophetically that his life was in the hands of any rascal who chose to annoy him, and in this matter he was indeed prescient. His death occurred suddenly in 1793 during a violent altercation during which he was trying to control his anger.¹ The importance of mental stress as a coronary heart disease risk factor has continued to be recognized.² However, the extent to which increasing societal stresses may have played a significant part in the eighteenth-century evolution of coronary heart disease is not easily determined. The risk factors that have been considered so far lend themselves to measurement, even if Georgian era data are imprecise by present day standards or have to be deduced. In contrast, even today, assessment of the possible causes of stresses and their severity remain largely subjective and difficult to quantify. Notwithstanding these difficulties, the importance of stress (individual types of which are considered presently) as a factor conducive to development of CHD is strongly suggested by late-twentieth-century studies and the pathophysiological mechanisms have been elucidated.³ For the most part these investigations have been conducted at a time when high animal fat consumption in the western world not only characterized the eating habits of the prosperous, but had recently become the norm among classes who were less well off, but enjoying a recent rise in living standards. During the eighteenth and nineteenth centuries, however, the poor had subsisted on diets lacking in animal fats and deficient enough generally to have affected their physical status in obvious ways, such as rate of growth and final height.⁴ Despite their inadequacies, the low fat diets appeared to confer upon the labouring classes some immunity to symptomatic coronary heart disease as discussed earlier. It was a peculiarity of angina pectoris noted by Black as early as 1819,⁵ by Osler as late as 1910,⁶ and others in between. Other adverse health consequences of the stresses and strains to which the labouring

¹ E Home, 'A short account of the author's life', in J Hunter, *A treatise on the blood, inflammation and gunshot wounds*, London, John Richardson, 1794, p. lxi.

² Stewart G Wolf, 'History of the study of stress and heart disease', in Robert E Beamish, Pawalk Singal and Naranjan S Dhallia (eds), *Stress and heart disease*, Boston, Martinus Nijhoff Publishing, 1985, pp. 3–14.

³ *Ibid.*, pp. 7–14.

⁴ Roderick Floud, A Gregory and K Watcher, *Height, health and history: nutritional status in the United Kingdom 1750–1980*, Cambridge University Press, 1990, pp. 140–1, 148.

⁵ Samuel Black, *Clinical and pathological reports*, Newry, Alexander Wilkinson, 1819, p. 8.

⁶ William Osler, 'The Lumleian lectures on angina pectoris, Lecture I', *Lancet*, 1910, i: 697–702, p. 698.

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classes were then undoubtedly subject are therefore outside the purview of the present inquiry, however important in themselves. What is relevant here and therefore needs consideration is an examination of, firstly, the impact of the stresses to which the eighteenth-century middle and upper classes were subject along with the population in general and, secondly, the consequences of the strains to which they may have been uniquely subject.

The only eighteenth-century effect of stress that lends itself to direct measurement is the suicide rate. London deaths attributed to suicide were recorded weekly in the parish Bills of Mortality and summarized for the whole of the metropolis at the end of each year. The means of self-destruction included hanging, cutting the throat, jumping from a height, drowning, use of a firearm and poisoning. The numbers listed in the Bills are of necessity less than accurate. Unless the suicide was witnessed there could be difficulty in distinguishing it from murder, accident, or even natural causes. Families often felt a sense of shame and attempted to conceal the possibility that death was self-inflicted. There is, however, no evidence of any systematic change in the way deaths were recorded that would have affected the early- and late-eighteenth-century listings differently. The territory covered by the London Bills of Mortality changed very little between late Stuart and mid-Georgian times. There were 134 parishes included in 1690 and just 14 more by 1770. A transient surge in suicide rates during the 1750s has been reported.⁷ On the other hand, my own perusal of the Bills, whilst revealing an increase in numbers in line with population growth, uncovered very little change in suicide rates between the late seventeenth and eighteenth centuries. During the periods 1691–95 and 1771–79 they numbered 16.9 and 15.8 per 10,000 deaths respectively.

Eighteenth-century factors that caused stress with outcomes less dramatic than suicide involved far greater numbers of people, and therefore warrant detailed review despite the difficulties to which reference has been made. The factors considered here are urbanization, emotional strains associated with upward mobility, financial worries, work insecurity, subordinate status, wartime worries and separation, bereavement and health concerns.

Twentieth-century studies in the United Kingdom, Norway and the United States (Tables VIII.1–3) showed that in the years before effective treatment, preventive and therapeutic, became available ischaemic heart disease mortality was greater among urban as opposed to rural populations.⁸ The excess of urban over rural coronary heart disease death rates has been found not only among people born in the cities for whom town living did not represent any major change in their way of life, but among migrants from the countryside into the towns and residents of village

⁷ Paul Langford, *A polite and commercial people: England 1727–1783*, Oxford University Press, 1992, p. 479.

⁸ G M Howe, *National atlas of disease mortality in the United Kingdom*, London, Butler and Tanner, 1970, Appendix 2, p. 184; Øystein Krüger, A Aase and W Steinar, 'Ischaemic heart disease mortality among men in Norway: reversal of urban–rural difference between 1966 and 1989', *J Epidemiol Community Health*, 1995, 49: 271–6, pp. 272–3; H H Hechter and N O Borhani, 'Mortality and geographic distribution of arteriosclerotic heart disease', *Public Health Rep*, 1965, 80: 11–24, p. 22.

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Table VIII.1

Ischaemic heart disease average annual mortality/100,000: male residents of S.E. English counties, 1959–63. Greater urban mortality indicated in bold type

County	Mortality	
	Rural	Urban
Bedfordshire	205	209
Berkshire	191	237
Buckinghamshire	221	218
Cambridgeshire	240	198
Essex	275	240
Hampshire	244	259
Hertfordshire	195	201
Kent	244	272
Norfolk	226	297
Oxfordshire	215	270
Suffolk	246	312
Surrey	234	268
Sussex	324	342

Source: G M Howe, *National atlas of disease mortality in the United Kingdom*, London, Butler and Tanner, 1970, Appendix 2, p. 184.

communities that were engulfed by growth of neighbouring cities.⁹ During the eighteenth-century, English town dwellers grew both in absolute numbers and as a proportion of the general population, Londoners numbered 575,000 in 1700 and 960,000 by 1801.¹⁰ In 1700, 13.3 per cent of the population lived in towns with 10,000 or more inhabitants. By 1800 the percentage had risen to 20.3.¹¹ However, it is difficult to apply the results of twentieth-century studies to eighteenth-century circumstances in the expanding towns. The differences are too great and in any case the upper and middle classes would have escaped the worst consequences of urbanization. Living as they did for the most part in the newly developed suburbs, they were well away from the areas of greatest crowding, noise and violence. They were also to some extent sheltered from the bustle and faster pace of life in the older and more central parts of the cities. Their sense of security was increased by distancing themselves from the areas of most violence and by improvements in street lighting.¹² Many retained country homes in which they spent part of the year. Irrespective of any factors that may now contribute to the higher incidence of coronary heart disease among town as opposed to country dwellers, there is no clear evidence of

⁹ H A Tyroler and John Cassel, 'Health consequences of culture change, II. The effect of urbanization on coronary heart mortality in rural residents', *J Chronic Dis*, 1964, 17: 167–77, p. 169.

¹⁰ E Anthony Wrigley, 'Urban growth and agricultural change: England and the continent in the early modern period', *J Interdis Hist*, 1985, 15: 683–728, p. 688.

¹¹ R A Houston, *Population history of Britain and Ireland, 1500–1750*, London, Macmillan Education, 1992, p. 32.

¹² Dorothy George, *London life in the eighteenth century*, New York, Harper and Row, 1965, pp. 95–6.

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Table VIII.2

Ischaemic heart disease mortality among Norwegian men, 1966–70

Age	Mortality/100,000/year	
	Rural	Urban
40–49	121	141
50–59	350	455
60–69	918	1,221

Adapted from Ø Krüger, A Aase and W Steiner, 'Ischaemic heart disease mortality among men in Norway: reversal of urban–rural difference between 1968 and 1989', *J Epidemiol Community Health*, 1995, 49: 271–6. (With permission from the BMJ Publishing Group.)

Table VIII.3

USA male urban and rural mortality. Age adjusted (No./100,000/year, 1959–61)

	Mortality
1. Rural	349 ± 33
2. Lesser Metropolitan	359 ± 28
3. Greater Metropolitan	365 ± 28

$\chi^2 = 2.33$ P = 0.52 (comparing 2 & 3).

Source: H H Hechter and N O Borhani, 'Mortality and geographic distribution of arteriosclerotic heart disease', *Public Health Rep*, 1965, 80: 11–24, p. 22. (With permission from Oxford University Press.)

any overall eighteenth-century impact of urbanization on upper- and middle-class liability to stress. Furthermore, as judged by twentieth-century studies, the heightened incidence of the urban coronary heart disease mortality rates was modest. In the United Kingdom it was only about 13 per cent in mid-century and unevenly distributed from county to county. Although in Norway the differences were fairly substantial, in the United States they were slight and not significant.¹³ The three studies were selected because they were initiated, and in two instances completed, before medical management, prophylactic or therapeutic, had begun to have any impact on coronary heart disease incidence and mortality and they were therefore unaffected by any differences between rural and urban availability and quality of treatment. All in all, there is insufficient evidence to warrant incriminating the growing urbanization of the Georgian era as a factor contributing to middle class stress and thereby to the emergence of angina pectoris.

The middle class, although not designated as such in early mid-eighteenth-century writings, grew during the Georgian era both in absolute numbers and as a proportion of the total population of England and Wales. The extent of the increase can be gauged by comparing the numbers of the "middling sort" reported by occupation

¹³ Howe, op. cit., note 8 above; Krüger *et al.*, op. cit., note 8 above, pp. 272–3; Hechter and Borhani, op. cit., note 8 above, p. 22.

by Gregory King in 1688¹⁴ with the findings of Joseph Massie for 1759–60¹⁵ (see Tables III.8–9). Between them the tabulations show that over a seventy-year period there was more than a doubling of the number of families that, based on either status or occupation, could be considered middle-class. Natural increase played some part in this growth, but much was the result of increasing prosperity among the higher ranks of the labouring population and their entry into the middle class, with consequent changes in values and lifestyles. Unlike the Continent where classes were frequently defined by law, there were no legal impediments to upward mobility in England. The artisan, after years of working for a master, often struck out on his own and prospered. The shop assistant went into business for himself. The successful small-scale tenant farmer became a landowner, enlarged his acreage and perhaps subsequently became an employer of farm labour. Some entered the middle class by engaging in occupations unknown in previous centuries, such as insurance brokers and distribution agents. Samuel Johnson remarked that “there was never from the earliest ages a time in which trade so much engaged the attention of mankind or commercial gain was sought with such general emulation”.¹⁶ The personality traits of the men who successfully rose from the labouring to the middle classes were likely to have been the ones which have been characterized by Ray Rosenman and his colleagues as Type A and found by them to predispose to development of coronary heart disease.¹⁷ An association between upward mobility and liability to develop ischaemic heart disease has been demonstrated. William N Christensen and Lawrence E Hinkle Jr compared two groups of Bell System young executives for differences in the amount of illness in general and cardiovascular problems including angina in particular. These were less frequent among the college graduates who were hired as managers and more common among the high school graduates who had started work on the factory floor and worked their way up to managerial positions.¹⁸ These differences in CHD incidence between the two groups were greater when reported at follow-up seven years later (Table VIII.4).¹⁹

Movement into the business, manufacturing and land-owning classes was accompanied by the need for credit with consequent increase in indebtedness, often with usurious interest rates. The associated insecurity was compounded by the dire consequences of bankruptcy and the penalties for indebtedness. Creditors had the power to have defaulters punished by indefinite incarceration in the Fleet or other equally disagreeable prisons. This fate was not rare. Of the 4,084 prisoners that the prison reformer John Howard counted on his 1770s tours, 2,437 were debtors. The incarceration was a civil process with the state merely providing a place of

¹⁴ Gregory King, *Natural and political observations and conclusions upon the state and condition of England 1696*, ed. George E Barnett, Baltimore, Johns Hopkins Press, 1936, p. 31.

¹⁵ Langford, *op. cit.*, note 7 above, p. 64.

¹⁶ Quoted in Roy Porter, *English society in the eighteenth century*, Harmondsworth, Penguin, 1990, p. 186.

¹⁷ Ray H Rosenman *et al.*, ‘A predictive study of coronary heart disease’, *JAMA*, 1964, **189**: 15–22, p. 21.

¹⁸ William N Christensen and Lawrence E Hinkle Jr, ‘Differences in illness and prognostic signs in two groups of young men’, *JAMA*, 1961, **177**: 247–53, p. 241.

¹⁹ Lawrence E Hinkle Jr *et al.*, ‘Occupation, education, and coronary heart disease’, *Science*, 1968, **161**: 238–46, p. 241.

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Table VIII.4

First disabling CHD event. Bell System staff aged 30–59 at entry to study. Annual rates/1000, 1963–5. College and non-college educated

Category	Rate/1000/year	
	Non-college	College
Executive	2.46	1.65
General area managers	5.14	2.07
Local area managers	4.28	3.68

Abstracted with permission from Lawrence E Hinkle Jr *et al.*, 'Occupation, education, and coronary heart disease', *Science*, 1968, 61: 238–46, p. 241. (American Association for the Advancement of Science.)

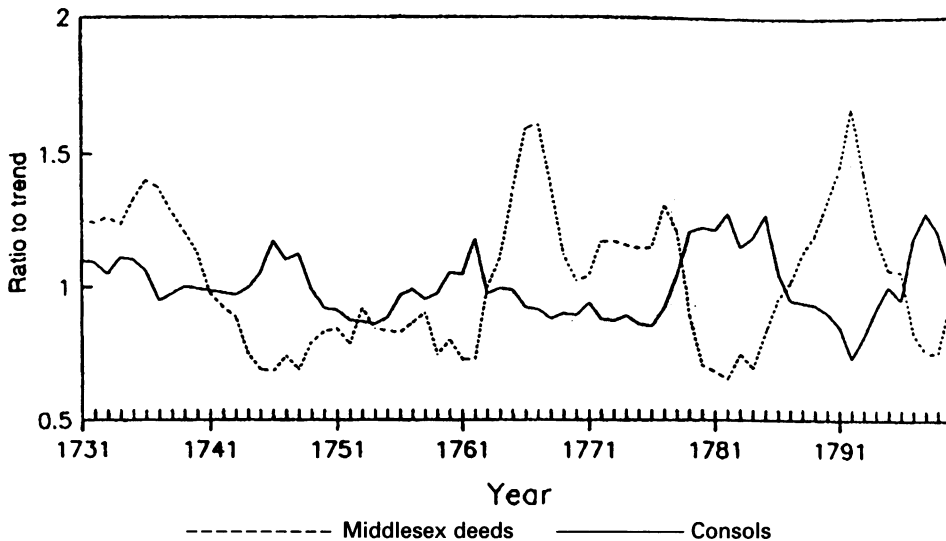


Figure VIII.1: Variations in Middlesex land registry deed values and yields on consols, 1731–1800. Source: J Landers, *Death and the metropolis*, Cambridge University Press, 1993, p. 79. (Reproduced by permission of Cambridge University Press.)

confinement. Where the prisoner's well being and even his food and drink depended entirely on his own inadequate means.²⁰ The risks were compounded by the considerable economic upswings and downturns that occurred throughout the eighteenth century (Figure VIII.1),²¹ starting with the most dramatic of all, the crisis and ongoing sense of investment insecurity that followed the expansion and subsequent bursting of the South Sea Bubble in 1720.²² The eighteenth-century merchant was

²⁰ N Morris and D J Rothman (eds), *The Oxford history of the prison: the practice of punishment in western society*, Oxford University Press, 1996, pp. 79–81.

²¹ J Landers, *Death and the metropolis: studies in the demographic history of London 1670–1830*, Cambridge University Press, 1993, p. 79.

²² Langford, *op. cit.*, note 7 above, p. 198.

also subject to the vicissitudes of the economy caused by the disruptions that resulted from the numerous wars that were then fought.²³ The return of peace could also produce dislocations in trade as government procurements were reduced and competition from former enemy countries resumed. Peggy McDonough and her colleagues have found that falls in income, even if followed by upswings, are associated with an increase in mortality odds ratio. This was observed particularly in basically middle income groups.²⁴ During the Georgian era, employed persons in middle-class occupations, such as teachers or the lower level parish clergymen, enjoyed no work security. They were at constant risk of arbitrary dismissal at the whim of a superior and with little or no notice, possible loss of a work-related home and often with no severance compensation whatsoever. The landowner was subject to the consequences of cattle plague, drought and harvest failure with resulting loss of either direct or rental income. He suffered the consequences of falling agricultural prices and wartime rises in the land tax.²⁵ Persons whose livelihood depended on overseas commerce and who had an interest in the major trading associations such as the East India Company could face potential ruin due to losses at sea. Besides the hazards of nature, piracy and seizure of vessels by privateers from belligerent countries were ever present dangers. The merchant community also suffered from a continuous sense of insecurity because of the length of time without news that would elapse between the departure and the return of ships engaged in trade with ever more distant lands. The maritime insurance market was then fragmented and underwriters covered only part of the insured value, the extent reflecting the high risks involved.²⁶ All of these causes for anxiety became greater as commerce became worldwide during the Georgian era. The impact of the commercial stresses increased with expansion of maritime trade and the members of the moneyed classes who were at risk grew more numerous. They all had ever more to lose and the consequences of loss were horrendous. All in all, the eighteenth-century social and economic changes were causes of stress that were greater than had existed in earlier times and involved more people. Untoward consequences of the increasing prosperity did not go unnoticed by physicians of the time. Dr George Cheyne, for example, writing in 1733, designated the nervous diseases affecting the growing élite as “the English malady”.²⁷ It could well have contributed to the “British disease” that became manifest thirty-five years later.²⁸

Eighteenth-century society was very much a hierarchical one. It was an age of bowing, scraping and touching of forelocks. All but the highest strata of society had

²³ *Ibid.*, pp. 631ff.

²⁴ Peggy McDonough *et al.*, ‘Income dynamics and adult mortality in the United States, 1972 through 1989’, *Am J Public Health*, 1997, **87**: 1476–83, p. 1480.

²⁵ Frank O’Gorman, *The long eighteenth century: British political and social history 1688–1832*, London, Arnold, 1997, p. 103.

²⁶ H A L Cockerell and E Green, *The British insurance business, 1547–1970*, London, Heinemann Educational Books, 1976, p. 13.

²⁷ George Cheyne, *The English malady; or, A treatise of nervous diseases of all kinds, as spleen, vapours, lowness of spirits, hypochondriacal and hysterical distempers*, Dublin, S Powell, 1733, p. i.

²⁸ William L Proudfit, ‘Origin of concept of ischaemic heart disease’, *Br Heart J*, 1983, **50**: 209–12, p. 209.

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Table VIII.5

Ten-year CHD mortality percentage: British civil servants

Age at entry (1967–9)	Percentage mortality	
	Grade	
	Administrative	Professional and executive
40–49	0	1.4
50–59	3.3	4.5
60–64	4.2	7.2
Age adjusted	2.2 SE 0.5	3.6 SE 0.5

Source: M G Marmot, M J Shipley and G Rose, 'Contribution of job control and other risk factors to social variation in coronary heart disease incidence', *Lancet*, 1997, i: 235–9, p. 238. (Permission granted by The *Lancet* Ltd.)

to maintain constantly a deferential attitude to persons categorized as their superiors or in positions of authority.²⁹ It was a constraint that the “middling sort” resented increasingly and ultimately sought to change in the years leading to their enfranchisement with passage of the 1832 Reform Act.³⁰ In the meantime they had to suffer continuously an accompanying loss of self-esteem and the mental strains associated with the suppression of resentment and anger, now recognized as factors contributing to an increase in incidence of coronary heart disease. Thus in the Whitehall study of British civil servants Michael G Marmot and his colleagues found that the ten-year mortality at all ages was greater among staff in the relatively lower professional/executive grades when compared to those at the highest and decision-making administrative level (Table VIII.5). The lifestyles of persons at each of these two levels were comparable with respect to all other traditional risk factors, and both grades had mortality rates below those of personnel at still lower levels. The comparison indicates therefore that subordinate status and inability to exert personal control of workaday activities constitutes a cardiac risk factor.³¹ The authors' conclusions received subsequent confirmation in a prospective cohort study of all grades in the same population among whom the effects of high versus low job control were compared with respect to coronary heart disease incidence in all of its forms. The attack rates in the lowest grades where there was the least job control were higher than among personnel in the topmost ranks, even after correction for significant differences in other lifestyle risk factors.³²

²⁹ O'Gorman, op. cit., note 25 above, p. 12.

³⁰ *Ibid.*, p. 368.

³¹ Michael G Marmot *et al.*, 'Contribution of job control and other risk factors to social variations in coronary heart disease incidence', *Lancet*, 1997, **350**: 235–9, p. 238.

³² Hans Bosma *et al.*, 'Low job control and risk of coronary heart disease in Whitehall II (prospective cohort) study', *Br Med J*, 1997, **314**: 558–65, p. 562.

Parenthetically, members of the eighteenth-century English middle classes who had worked their way up from humbler origins were possibly at high risk for reasons other than any social and economic stress occurring after the improvement in their lot. D J P Barker and C Osmond's studies have shown a significant correlation between nutritional deprivation early in life and increased liability to coronary heart disease mortality in middle and later years. Areas of England and Wales that were characterized by high infant mortality rates in the years 1921 to 1925 suffered high ischaemic heart disease death rates during the period 1968–78. By these later dates the people concerned had long ceased to suffer deprivation. The linkage persisted when allowance was made for the impact of other cardiac risk factors.³³ George A Kaplan and Jukka T Salonen reported confirmatory findings in the Kuopio study in Eastern Finland. Poor socioeconomic conditions in childhood were associated in middle life with a significantly raised incidence of electrocardiographic ischaemic changes on stress testing (RR 1.44, CI 1.171.78). The significance remained after adjustment for traditional risk factors.³⁴ Similarly, A Forsdahl found that counties in Norway characterized by high infant mortality in the years 1896 to 1925 had correspondingly higher death rates from arteriosclerotic conditions during the 1964–67 period and that were also above the Norwegian national average (Figures VIII.2a and 2b). The one-time infants were by then aged from about forty to seventy years and by the 1960s county to county adult nutritional differences had largely disappeared. There was very little in or out migration to confound the findings. Forsdahl too concluded that deprivation in childhood, even if corrected during adult life, resulted in a heightened likelihood of ischaemic heart disease developing in middle and later life.³⁵ The labouring classes in eighteenth-century England suffered from chronic nutritional deprivation, particularly in winter and during years when the harvests were bad. It is possible, therefore, that members of the eighteenth-century middle class who were of humble origin became especially liable to suffer the pains of angina pectoris in their later years when, having moved into the middle class, affluence enabled them to adopt dietary and other lifestyle features conducive to development of coronary heart disease.

Eighteenth-century stresses due to armed conflict at home were significantly less than in the seventeenth century when England had suffered the ravages of the Civil War, the 1715 abortive rebellion staged on behalf of the Old Pretender had virtually no effect on the country and, except during the short-lived uprising led by Bonny Prince Charlie in 1745–6, the country remained internally at peace throughout the Georgian era.³⁶ However, foreign wars were frequent, prolonged and fought in faraway places to an extent unknown previously. England was engaged in major conflicts for forty-two years of the eighteenth century. People then, as always, worried about their loved ones fighting in distant lands, symbolized by the mother whose

³³ D J P Barker and C Osmond, 'Infant mortality, childhood nutrition and ischaemic heart disease in England and Wales', *Lancet*, 1986, i: 1077–81, p. 1078.

³⁴ George A Kaplan and Jukka T Salonen, 'Socioeconomic conditions in childhood and ischaemic heart disease during middle age', *Br Med J*, 1990, 301: 1121–23, p. 1122.

³⁵ A Forsdahl, 'Are poor living conditions in childhood and adolescence an important risk factor for arteriosclerotic heart disease?', *Br J Prev Soc Med*, 1977, 31: 91–5, p. 92.

³⁶ George Macaulay Trevelyan, *History of England*, London, Longmans, Green, 1947, p. 529–36.

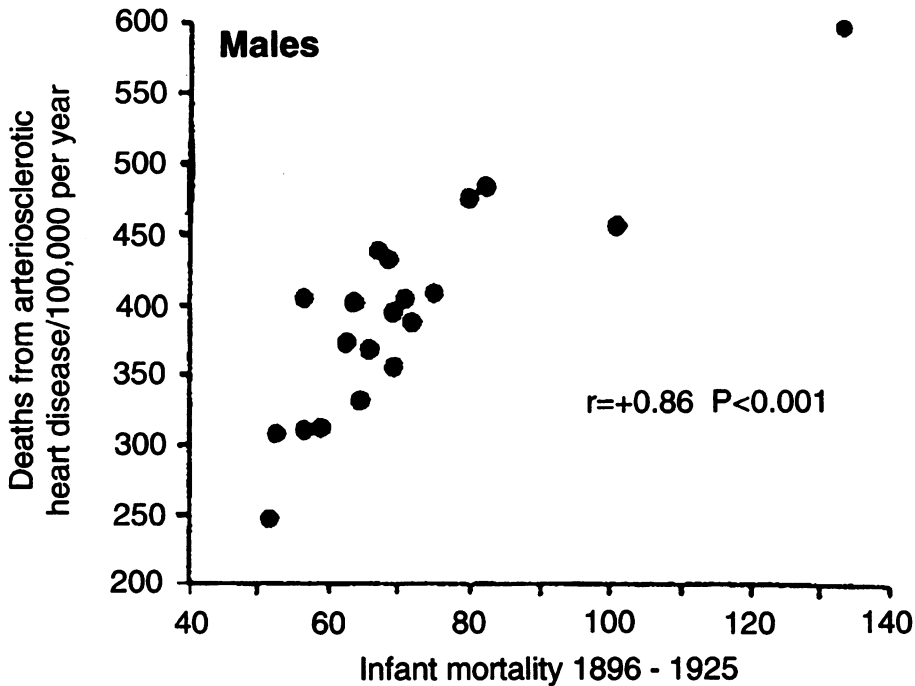


Figure VIII.2a: Correlation between mortality from arteriosclerotic heart disease, 1964–67, in men aged 40 to 69 years (standardized rates/100,000 population) and infant mortality rates, 1896–1925. Source: A Forsdahl, ‘Are poor living conditions in childhood and adolescence an important risk factor for atherosclerotic heart disease?’, *Br J Prev Soc Med*, 1977, 31: 91–5, p. 92. (With permission from the BMJ Publishing Group.)

son had, “Gone to fight the French, for King George upon the throne,” sighing, “And it’s Oh! in my heart, how I wish him safe at home!”³⁷ They grieved at the deaths of their lovers, husbands, brothers and sons whether in battle or, more often, from exotic diseases to which their men-folk had never been exposed in peacetime and to which they consequently lacked immunity. Those who remained at home to worry and grieve grew in the eighteenth century both in absolute numbers and as a proportion of the total population as the size of the army and the navy engaged in war became ever greater over the long haul. The number of men serving rose from 120,000 in 1746 during the War of the Austrian Succession to a peak of 150,000 during the Seven Years’ War, 230,000 by 1783 at the end of the War of American Independence, and 482,000 in 1802 when the Treaty of Amiens terminated the French Revolutionary War. By the mid-eighteenth century large overseas garrisons were being maintained even in peacetime.³⁸

³⁷ Dorothea Jordan (1762–1816), *The blue bell of Scotland: a favourite ballad, as composed and sung by Mrs Jordan at the Theatre Royal, Drury Lane*, London, Longman, Clementi, [1800].

³⁸ J Landers, *Death and the metropolis: studies in the demographic history of London 1670–1830*, Cambridge University Press, 1993, p. 287–8.

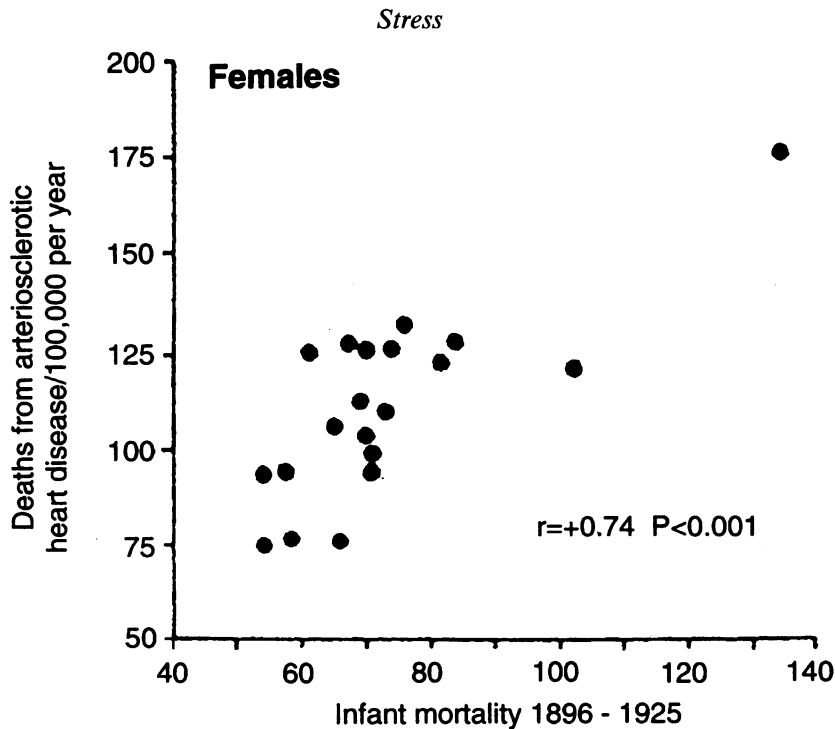


Figure VIII.2b: Correlation between mortality from arteriosclerotic heart disease, 1964–67, in women aged 40 to 69 years (standardized rates/100,000 population) and infant mortality rates, 1896–1925. Source: A Forsdahl, ‘Are poor living conditions in childhood and adolescence an important risk factor for atherosclerotic heart disease?’, *Br J Prev Soc Med*, 1977, 31: 91–5, p. 92. (With permission from the BMJ Publishing Group.)

The psychological trauma associated with death of children must of necessity have been endured with greater equanimity in Georgian times than is now the case as infant, childhood and early adult mortality rates were then incomparably higher. However, the pain of bereavement may have become greater during the eighteenth century as the solace afforded by religion became less with declining belief in its consolations in general and in an afterlife in particular. Rationalism was receiving growing emphasis even within the church.³⁹ The fear of illness must have been an additional potent cause for anxiety in an era in which means of obtaining symptomatic relief were limited and curative procedures for all practical purposes not only non-existent but known by most sufferers to be so. In general this fear may not have been any worse than in earlier times. However, in the late eighteenth century the severity of the recently manifest angina pectoris could in itself have been a new cause of anxiety, both for the patient and for those in his immediate circle who became familiar with the condition secondarily. William Heberden himself commented

³⁹ John Walsh and Stephen Taylor, ‘The Church and Anglicanism in the “long” eighteenth century’, in John Walsh, Colin Haydon and Stephen Taylor (eds), *The Church of England c. 1689–c. 1833: from toleration to tractarianism*, Cambridge University Press, 1993, p. 42.

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on the severity of the pain and the sense of impending death that often accompanied it.⁴⁰ The pain must have been particularly terrifying at a time when no relief was obtainable other than through rest. Availability of amyl nitrite was still a full century away.

In conclusion, mental stress is now accepted as a contributory cause of ischaemic heart disease. During the eighteenth century some causes of middle- and upper-class stress lessened but others increased. Members of these classes were in large measure sheltered from the mental strains associated with urban life. In contrast, the economic changes taking place during the Georgian era produced greater stresses in connection with upward mobility and new economic grounds for financial insecurity. The disruptions due to conflict within England decreased, but the anxieties associated with foreign wars lasted for longer periods and involved more people. The emotional consequences of bereavement may have become more intense as religion became a diminishing source of consolation. As the eighteenth century progressed, these worries involved larger numbers of people at the very time when they were becoming increasingly exposed to the consequences of the other traditional risk factors. Whether changing stresses contributed or not to the late eighteenth-century emergence of angina must continue to be conjectural. They remain as possibilities.

⁴⁰ William Heberden, *Commentaries on the history and cure of diseases*, 2nd ed., London, T Payne, 1802, p. 364.