**Demography and the Decline of the Roman Empire.**

**Peter Razzell**

In his book on the enemies of Rome, Philip Matyszak wrote:

> 'Historians blamed the fall of Rome on depopulation, pointing to references in the ancient texts to plagues and *agri deserrti* (abandoned fields). Certainly, by the end of the Empire, a few thousand men counted as a substantial army whereas in the glory days of the Republic a single legion contained 6,000 men.' [1]

There is evidence that the "urban penalty" in mortality may have been responsible for the depopulation referred to by Matyszak. This penalty can be illustrated with data from a study of British Quakers in the period between the middle of the seventeenth and the nineteenth centuries.

**Table 1: Estimated Infant Mortality (Per 1000) Amongst Quakers 1650-1849**[2]

| Period | London | Bristol & Norwich | Provincial England | Dublin | Cork. Wexford. Waterford & Limerick | Rural Ireland |
|---|---|---|---|---|---|---|
| 1650-99 | 342 | 219 | 177 | 299 | 166 | 82 |
| 1700-49 | 269 | 216 | 200 | 196 | 160 | 118 |
| 1750-99 | 166 | 158 | 124 | 164 | 151 | 82 |
| 1800-49 | 132 | 107 | 69 | 107 | 62 | 41 |

Infant mortality in rural Ireland was between a quarter and a third less than that in London. This Table depicts a progressive increase in infant mortality in urban areas depending on their population size in both England and Ireland. In Ireland the great majority of rural inhabitants lived in isolation, and Freeman has estimated that in 1841 only about 20 per cent of the Irish population lived in villages and towns, the rest in isolated cabins.[3]

In addition to the Quaker data, there was a similar urban/rural infant mortality gradient in England amongst the general population. For example, the infant mortality rate in sixteen London parishes in 1700-49 was 409/1000, compared to 181/1000 in eighteenth English parishes.[4]

The above evidence reveals that mortality rates in urban areas were twice as high and above than that in rural districts. This was also the case in the Roman Empire and surroundings regions. This can be illustrated by an analysis of population growth in different regions of Europe.

**Table 2: An Estimate of the Empire's Population in A.D 164**[5]

| *Region* | *Population (millions)* | *Density (per km$^{2)}$* | *Increase from A.D. 14 (per cent)* |
|---|---|---|---|
| Italy | 7.6 | 30.4 | 8.6 |
| Maghreb | 6.5 | 16.3 | 85.7 |
| Iberia | 7.5 | 12.7 | 50.0 |
| Gaul/Germany | 9.0 | 14.2 | 55.2 |
| Danube Region | 4.0 | 9.3 | 48.4 |

Italy's population suffered from high population density and had a markedly lower rate of population growth in the period 14-164 A.D. than surrounding European countries. This was probably the result of a high concentration of urban cities and towns in Italy during this period.

According to the Internet AI 'Urbanization in Roman Italy saw a massive expansion from the 8th century BCE through the Imperial era … [involving] the development of colonies and municipalise, creating high urbanization rates (approximately 15-30% in Italy) … As Rome grew, it expanded by building a network of colonies and creating roads that interconnected the Italian peninsula … Bioarchaeological evidence shows the urban dwellers in cities like Milan suffered more from infectious diseases compared to rural residents.'

As Frier has written, 'By AD 14, Rome, the imperial capital, had at least 710,000 inhabitants, more than a tenth of Italy's population, and in the following century it may have reached 1 million. … All the great cities of antiquity, with their fetid conditions and high mortality rates, were heavy net consumers of population.'

Frier posed the question as to 'What happened to the Roman empire's population after A.D. 14.? Clearly there was room for growth, above all in the thinly settled West, and although the population of Italy apparently remained stagnant, elsewhere archaeology had provided conclusive evidence for growth, especially in Africa, Spain and Gaul.'[6]

According to AI Overview on Google, 'Caesar largely raised his legions in Cisalpine Gaul (northern Italy)', and thus they would have been prone to high levels of disease incidence and mortality.

According to Wikipedia, the population of Rome fell to 500,000 in 410 AD because of the sack of the city, and was reduced by the Gothic Wars to 30,000 in 600 AD.

Frier has elaborated the reasons for high urban mortality: 'High mortality rates and pre-modern sanitary conditions made urban regions net population sinks, with more deaths than births. They could only be sustained by constant migration … Scourges are certain … numerous 'fevers', including typhus, typhoid fever, Malta and malaria, second, pulmonary illnesses, especially the forms of pneumonia … In normal circumstances, these causes were probably responsible for around 60 per cent of all deaths. Gangrene, scurvy (especially in times of want); and, less frequently, rabies, tetanus and anthrax … Also undoubtedly significant were dysentery and diarrhoea (especially for infants) cholera… sanitary standards were poor … disposal of human waste and garbage; large cities in particular remained fetid … Rome alone probably

produced about a million cubic metres of human waste each year, a fact worth remembering when we read of Romans bathing in the Tiber. Indeed, the medical writer Galen specifically warns against eating fish from the Tiber … Roman urbanism implied large and compact settlements linked by swift communications, and thus provided a ready network for infectious diseases to take hold and spread …'[7]

Augustus sponsored the *Lex Papia Poppaea* in 9 AD to promote marriage and childbearing. In the late Republic, 'protracted conflicts – from the Social War to the triumvirates – had culled a generation of potential citizen-soldiers, leaving shortages for staffing the 28 legions Augustus maintained post-Actium. Reliance on voluntary enlistment from the property-owing classes exposed vulnerabilities with low elite fertility directly impairing the supply of iuniores (military-age males) needed for campaigns in Gaul, Spain and the East.' [8]

However, the areas from which Roman soldiers were recruited expanded over time. 'While they started as an Italian force, by the 2nd century AD, the vast majority of legionaries were Romanized provincials from regions like Hispania (Spain), Gaul (France), North Africa, and the Balkans.'[9]

Smallpox appeared as a new disease in the Mediterranean, and as a result mortality became very heavy, and in 'affected places, probably as much as a quarter to a third of the entire population died … One reason for the continued decay of population within Roman borders was that fresh outbreaks of serious pestilence continued to occur. A new round of a magnitude fully comparable to the Antonine plague of 165-80 hit the Roman world in 251-66. This time reported mortality in the city of Rome was even greater: five thousand a day are said to have died at the height if the epidemic.'[10]

The city of Rome was the central reservoir of infection, and literary sources … attest the plague in Egypt, Syria, Asia Minor, Greece, Italy, Gaul and Germany; they also stress its heavy toll on human life in cities and on the land, its persistence and recurrence, and the widespread famines and that broke out in its wake,'[11] The Roman Empire with its network of roads and towns provided an ideal basis for the spread of infection.

The invading Huns, Visigoths and other barbarian tribes[12] lived in rural environments and therefore would have been less prone to high levels of infection found in urban districts. The Huns had traditionally been described as pastoral nomads, living off herding and moving from pasture to graze their animals, with a report that there was an absence of buildings.[13]

According to Taticus, 'It is well known that none of the German tribes are urbanised, homes among them not being allowed in close proximity. They live apart, scattered, as fountain, field and grove appeal to them. Their villages are not built after our fashion with buildings near together and connected, rather each man surrounds his house with a clear space, either as a precaution in case of fire, or through lack of expertise in construction.'[14]

This geographical isolation is similar to the historical conditions in rural Ireland, resulting in lower levels of disease infection. Likewise, 'the Visigoths emerged from the Gothic tribes … a people believed to have their origins in Scandinavia and migrated south-eastwards into eastern

Europe.'[15] It is likely that the rural environment in Scandinavia was much less prone to infection, allowing the Visigoths, as well as the Huns, to increase their numbers and therefore pose an increasing threat to the Roman Empire.

Reliable demographic evidence is usually lacking in this historical era, but the data in Table 2 shows that population growth was significantly higher in regions outside of Italy with low population densities, resulting in a greater capacity to launch effective attacks on the empire and eventually resulting in its decline.

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1 Philip Matyszak. *The Enemies of Rome: From Hannibal to Attila the Hun,* 2023, p. 283.
2 Peter Razzell, The Population History in Britain, 1538-1850, *Online Razzell Academia*, p. 5.
3 Thomas W. Freeman, *Pre-Famine Ireland: A Study in Historical Geography*, 1957, p. 27.
4 Peter Razzell, 'Population growth and the development of capitalism'' in *Razzell Academia*.
5 Bruce W. Frier, "Demography*",* in Alan Boumcw et.al. (eds), *The Cambridge History XI: The High Empire, AD 70-192*, 2000, p. 814.
6 Ibid, p. 814,
7 Ibid, p. 813
8 Grokipedia Online, *Lex Papia Poppaea.*
9 AI Overview *Roman Legions Ethnicity*
10 William H. McNeill, *Plagues and Peoples*, 1977, p. 116.
11 Frier, 'Demography'.
12 For accounts of attacks by Visigoths and Huns on Rome see Kyle Harper, *The Fate of Rome,* 2019, pp. 3,196
13 J. Otto Maenchen-Herfen in Max Knight (ed), *The World of the Huns,* 1973, pp. 169-179.
14 Frier, "Demography", p. 7
15 Publius Cornelius Tacitus, *Germania* (Poetry in Translation, Online); Herwig Wolfrom, *The Roman Empire and its German People,* 1997, pp. 39-40.