5
Demographic-Structural Theory and the Roman Dominate

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Abstract

This article uses the theory of secular cycles to examine the Eastern and Western Roman Empires in roughly 285–700 CE. The analysis suggests that the Eastern Empire conforms to an almost 'standard' cycle during that time. The Western Roman Empire, on the other hand, appears to expand until 350 CE and then decline again, long before the Germanic invasions of the fifth century. This decline may have been due to elite dynamics and the extremely top-heavy social pyramid in the fourth century West. Elite overproduction and infighting may have cut short the West's expansion phase and led to a premature decline. If correct, it is possible that demographic-structural theory explains the decline and fall of the Roman Empire.

Keywords: *Cliodynamics, Roman Empire, Dominate, population, history.*

Introduction

The work of Peter Turchin over the last decade has shown that population pressure exerts a powerful influence over socio-political instability, historical events, and the ebb and flow of state power (Turchin 2003, 2006; Turchin and Nefedov 2009). The dynamics can be identified in cycles of a few hundred years of expansion and contraction.[1] One interesting test of theory has recently been done on Pueblo societies by Kohler *et al.* (2009: 290–291). Here is a rough overview of the theory. When a population is low, there is plenty of food and a labour shortage, and so food prices are low and wages are high. A population enjoys a decent standard of living. This dynamics translates into political stability. As a result, the population tends to grow. This is the expansion phase. Eventually a population approaches its carrying capacity resulting in shortages of food and an oversupply of labour. Prices rise, wages drop, and the standard of living declines. The average person is paid less and has to pay more for the basic essentials. Famines increase in severity, the susceptibility of

[1] The average appears to be roughly 300 years for a full cycle, but depends greatly on specific conditions.

people to disease also increases, as does the possibility of widespread epidemics. At the same time, it is a 'golden age' for the elite. Landowners pay lower wages and charge higher rents. Middling landowners are forced off their farms and land is concentrated in the hands of the few. The inequality gap widens. Elite numbers and appetites grow. This is the 'stagflation' phase (Turchin and Nefedov 2009: 10–13).

Then a society hits a crisis. People starve, social cohesion collapses, the number of people living at subsistence level grows, grain reserves disappear, diseases ravage a malnourished population, there are rural and urban uprisings and, ultimately, the population declines. As the general population shrinks, the elites, cushioned by their status and their wealth, do not die at the same rate. The social pyramid becomes top-heavy. Elites begin to see their incomes shrink. The result is elite infighting and competition for the resources of the state. In this period faction and civil war are prevalent. Thus the first crisis, spurred mainly by demographic causes, is followed by a second crisis or 'depression' which is largely man-made. The man-made crisis holds recovery down, and this can last for decades. Eventually, however, a population does rebound. Elite numbers are reduced. Low numbers in the general population combined with high wages and low food prices lead to another period of expansion, peace, and stability.

In this paper I apply the demographic-structural theory to the period of the Roman Dominate. First I review the two secular cycles that were experienced by the Roman Republic and Empire before 285 CE. Next I consider the demographic-structural trends in the Eastern Empire between 285 and 628 CE. Then I look at the divergent cycle in the West between 285 and 400 CE and possible demographic-structural explanations for the downfall of the Western Roman Empire.

The Republican Cycle (350–30 BCE) and Principate Cycle (30 BCE – 285 CE)

Rome underwent two previous cycles that have been examined by Peter Turchin and Sergey Nefedov in *Secular Cycles* (2009). There is even a theoretical case to be made for an even earlier cycle spanning 650 to 350 BCE, seeing expansion and stagflation for the first 150 years, and crisis and depression falling around the overthrow of Tarquin the Proud and the establishment of the Republic. The Republican Cycle entered an expansion phase during which Rome established hegemony over the Italian peninsula from *c.* 350 onward. The population losses of the Second Punic War (218–201), an exogenous variable, might explain the elongated duration of the Republican cycle. Stagflation set in around 180, and a disintegrative trend began somewhere between 133 and 90, more likely the latter, and lasted through the wars of Sulla, Caesar, and the Triumvirate until around 30 BCE (Turchin and Nefedov 2009: 176–210). The following period, the Principate cycle (30 BCE – 285 CE), precedes

the one on which I focus in this article. The Roman Empire experienced growth in the first and second centuries CE, crisis following the Antonine Plague in 165 and lasting until 197, and a secular 'depression' of elite infighting in the Third Century Crisis (197–285).

In general I am in agreement with Turchin's findings, excepting one caveat. Turchin states that the expansion phase (27 BC – 96 CE), which according to the theory should have been stable, was 'somewhat marred' by political instability in the ruling class. He is referring to the violent overthrow of Caligula, Nero, Galba, Otho, Vitellus, and Domitian (Table 1). He dismisses them as mere 'palace coups'. He then plays down the severity of the civil war following Nero's death, 68–69 (Turchin and Nefedov 2009: 211). All this might be taken by some historians of the period as an understatement and perhaps a hasty dismissal of something that might expose a weakness in the theory or necessitate a refinement of the notion of elite dynamics. At any rate, the presence of such sustained elite conflict, to speak nothing of the rising tension at the end of the reign of Tiberius, is a too glaring variable to be quickly passed over.

Yet such a dismissal of the first century unrest is unnecessary even within the theory. Rural settlement patterns show that the population in Italy peaked in the first century CE, unlike in most other provinces of the Empire, which continued to flourish until the second century (Fig. 1). In the second century, while Britain, Belgica, Gaul, and Spain continued to grow, the population of Italy actually fell by 14 per cent. Even Turchin acknowledges this fact in his examination. There is no reason why this fact cannot account for the growing tension among Italian elites at the end of the reign of Tiberius, during the reign of Caligula, and also the periods of violence in the late sixties, and above all the localised nature of a great deal of the first century unrest within Italy.

Nor should Italy's first century peak come as a surprise. Unlike the Social War and the wars between Marius and Sulla in the Republican cycle, also explored by Turchin, the majority of the most brutal campaigning under Caesar, Pompey and later Octavian and Marc Antony, was held outside of Italy, in Spain, Africa, and above all in Greece. Although Italy undoubtedly experienced depopulation, not to mention the elite proscriptions of the second triumvirate, the ravages of actual military campaigning fell elsewhere in the Empire. In 49 CE, Caesar took Rome with ease and hounded Pompey out of Italy, while the most decisive battles of this latter part of the Republican cycle: Pharsalus, Philippi, and Actium took place in Greece. The shortness of Italy's period of expansion (27 BCE – 60 CE) as opposed to the flourishing of the Empire (27 BCE – 165 CE) might therefore be explained by the fact that the later campaigning of the Republican crisis (49–30 BCE) largely spared Italy, unlike the earlier part of the crisis (91–70 BCE). Thus it is conceivable that the Italian population might have recovered earlier than the rest of the Roman Empire.

Table 1. Sociopolitical instability in Roman Empire, 0–100 CE (an expanded list following Turchin and Nefedov 2009: 222)

Year	*Event*
15	Disturbances at Rome
16	Revolt of Legions in Pannonia and Germania
19	Alleged murder of a rival Germanicus by Piso, supposed acolyte of Tiberius
23	Mysterious death of Drusus, who had shared tribunician power with Tiberius
24	Rebellion of the slaves in southern Italy
29	First minister Sejanus begins purging senatorial class of all opponents
30	Sejanus exiles members of imperial family, some of whom die mysteriously
31	Sejanus falls from favour and is executed
37	Tiberius dies having become unpopular for his informers and treason trials
37	After a brief period of popularity, Caligula begins persecuting nobles
38	Caligula executes people without full trial
39	Famine strikes, Caligula seizes property of the wealthy, executes senators
41	Assassination of Caligula; proclamation of Claudius, stability returns
42	Conspiracy at Rome (Scribonianus)
55	Nero allegedly murdered Britannicus, a rival to the throne
59	Disturbances at Pompeii, Nero orders the murder of his mother
60–61	British revolt
62	Nero executes his ex-wife, Octavia
62–63	Persecution of senators for treason
64	Fire of Rome and disturbances
65	Conspiracy at Rome (Piso)
66–70	Jewish revolt
68	Uprising against Nero (Vindex and Galba), flight and forced suicide of Nero
69	Civil war. Galba destroys several towns, executes senators and knights without trial, murdered by army, Otho succeeds, is beaten by Vitellius, and commits suicide, Vitellius conducts a series of tortures and executions, and is killed by Vespasian's men while attempting to flee
70	Uprisings in Egypt, Gaul, and Germania
70	Alleged string of ‘false Neros’ and conspiracies against Vespasian
79–80	Rebellion of Terentius Maximus
89	Revolt of Saturninus
93–96	Sharp rise in persecution of dissidents
95	Conspiracy at Rome
96	Murder of Domitian, accession of Nerva

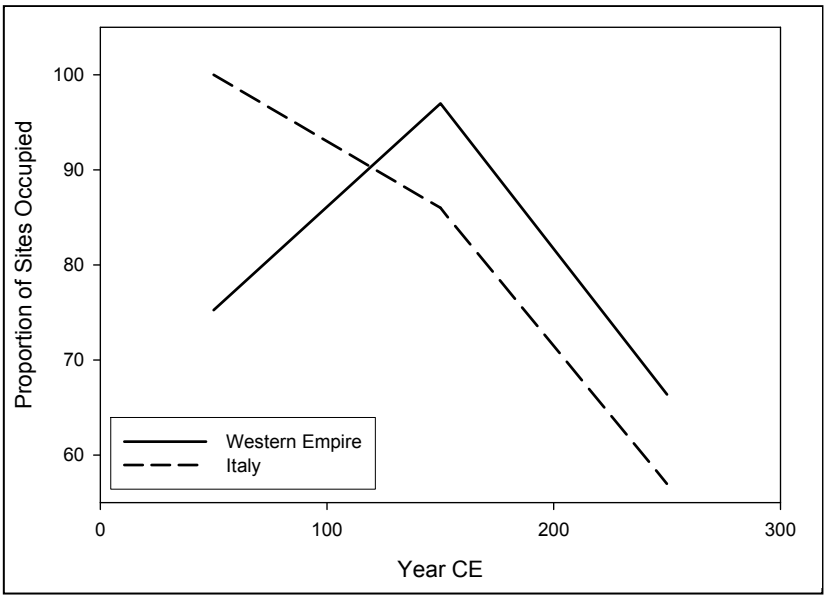

Fig. 1. Proportion of rural sites occupied (per cent of the peak value) in Italy compared to the whole of Western Empire (data from Lewit 1991)

Trends in the Eastern Empire (285–628 CE)

The Dominate cycle developed in different ways in the two major parts of the Roman Empire. The Eastern Empire after 285 enjoyed a period of demographic growth and economic prosperity throughout the fourth and fifth centuries, continuing until the Justinianic plague struck in the mid-sixth. The West also enjoyed a partial recovery after 285 and it lasted until the mid-fourth century, after which there was a sharp decline and eventual collapse.

Settlement patterns in northern Syria show that the population grew to a peak around 540 CE, then stagnated and declined into the eighth century. For example, east of Antioch, villages sprang up in the first century CE, and then there was a decline during the Third Century Crisis, followed by growth in small-scale farming and the development of new fields. Growth came to an end around 550, after which sites were abandoned (Gatier 1994: 17–48). In Greece, there was growth in rural settlements during the fourth, fifth, and sixth centuries. This trend is seen in surveys in Attica and Boeotia. At Corinth in the same period, there was a demographic recovery to a level which had not been seen since the time of Alexander the Great in the fourth century BCE. The same pattern can be seen in Methana, which saw nine sites occupied for the first time around 300 CE, and thereafter site numbers continued to grow (Alcock 1993: 38–48;

Bintliff 1994, 1997). In the eastern desert of Egypt, at Bir Umm Fawakhir, a Byzantine gold mining town developed in the 400s and was occupied for many years until it was abandoned at the end of the 500s (Meyer 1995). At Ephesus, many parts of the city were being redeveloped in the fifth century. All signs point to new buildings being erected as late as 600. Wealthy households on Embolos street were exquisitely decorated during the late 300s or early 400s. In 614, a fire destroyed these buildings. It is telling that they were not rebuilt (Foss 1977). Similar trends can be found all over the Eastern Mediterranean (for a survey, see Chris Wickham 2005: 442–453).

In the prosperous fourth century there was more equality among elites, but few hyper-rich landowners. Most Eastern senators were elites on a provincial level, and could not yet threaten the emperor (Wickham 2009: 37). The 300s were clearly an expansion period. Archaeological evidence from Northern Syria shows that there were many small landholders and very few large estates (Tate 1992). In Egypt tenant leases were short, peasant landholders were numerous (Fig. 2), wage labourers experienced high wages and low prices, and there were no attempts by fourth-century Egyptian landholders to tie their peasants to the land (Bagnall 1993: 110–123, 148–153).

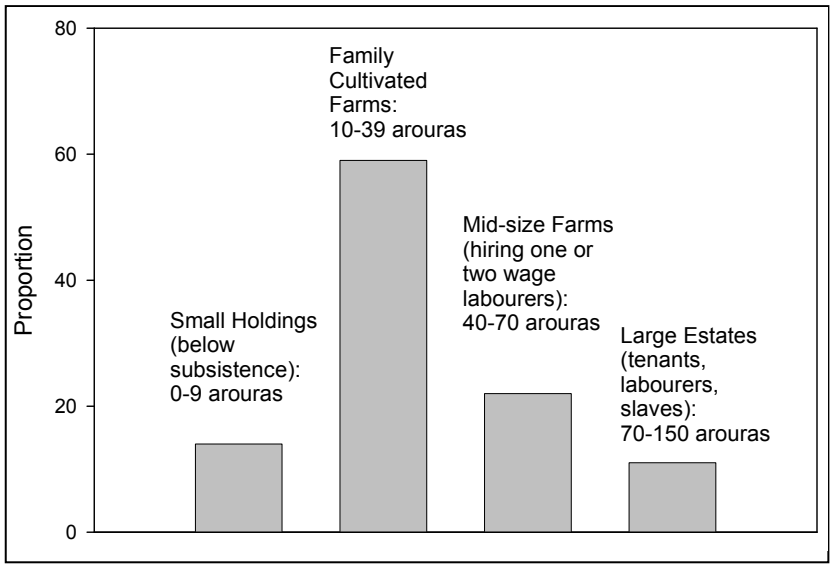

Fig. 2. Frequency distribution of farms by size: Kanaris, Egypt, the fourth century CE (data from Bagnall 1993)

However, in the 400s one begins to see growth in the number and size of large estates in the East. Landholders began to acquire trans-regional property, rather than holdings in just one province (Sarris 2004). This prosperity was the classic

result of an increase in the availability of labour, a decrease of wages that landholders had to pay, a rise in food prices, and consequently a rise in the incomes of landholders (Turchin and Nefedov 2009: 10–11). In the fifth century, the East began to acquire more elites at a time when the West was already glutted with the hyper-rich. An increase in elite numbers and wealth is a symptom of stagflation. The senatorial order expanded rapidly during the fifth century, particularly in the reign of Marcian (450–457). Stratification and inequality also became a problem. Stratification culminated with the highest ranking elites, the *illustres*, gradually excluding the less wealthy elites, the *spectabiles* and *clarissimi*, from the senate altogether by the reign of Justinian I (527–565) (Haldon 2005: 39).

The problem of intraelite conflict appears in Byzantine history after the death of Marcian in 457. The reign of his successor, Leo I (457–474), was marked by increased tension between the old Byzantine elite and the Isaurian faction, whose new and disproportionate influence they resented. While the reign was generally stable, it was marked by a number of assassination plots between the two camps. Leo I nevertheless ruled for a long time and died of natural causes at a ripe old age. The same could not be said of his grandson, Leo II (474), who ruled for less than a year before dying under suspicious circumstances. His father, Zeno, an Isaurian who had married into the dynasty, became emperor, but was soon overthrown by a revolt that slaughtered many of his Isaurian officers. Zeno fought his way back to the throne, but elite revolts persisted – in stark contrast to the stable fourth and early fifth centuries (Table 2). Elite competition exploded into open conflict in the 490s (Williams and Friell 1999: 171–184). The reigns of Anastasius (491–518), Justin (518–527) and Justinian (527–565) sustained a precarious equilibrium fraught with many court intrigues and noble plots, where the emperor had to constantly remain on his guard. Even the glorious reign of Justinian was witness to the Nika Revolts in 532, in which the senators were heavily involved. Several changes to the senatorial order followed the revolt. Sons of 'full' senators, the *illustres*, inherited the rank of *clarissimus* only. The emperor had to be petitioned for higher rank (Haldon 2005: 39). This was an attempt to restrain elite overproduction and to come to grips with the 'over-mighty subject'.

Nevertheless, the wealthy upper orders of *illustres* continued to multiply and proliferate. The lower *spectabiles* lost a lot of their military and administrative positions to the ever-growing horde of *illustres*. The late 530s saw the creation of ranks higher than that of *illustris*, those of *magnificus*, *gloriosus*, and later, the superlative *gloriossisimus*. The title of *illustris* was further devalued by being held by provincial elites (*Ibid.:* 40).

Table 2. Sociopolitical instability in the Eastern Empire, 285–700 CE (data from Williams and Friell 1999)

Year	*Event*
306–309	Galerius intervenes in Western infighting with limited success
311–313	Galerius dies, Maximin and Licinius compete for control of East
316–317	Licinius fights Constantine, peace and compromise
324–325	Licinius fights Constantine again, surrenders and later is killed
351–353	After a series of civil wars and coups in the West, Eastern emperor Constantius II goes to war and wins the entire empire
353	Gallus, Caesar of the East, is executed for irresponsible governance
364	Empire is split once again, Valens rules East
365–366	Revolt of Procopius
378	Valens killed at Adrianople
387–395	Theodosius I intervenes in Western infighting
450	Pulcheria and Marcian openly dispute succession with Chrysaphius
471	Zeno and the Isaurian faction displace the king-maker, Aspar
474	Leo II allegedly poisoned by Isaurian faction
475	Riots force Zeno to flee Constantinople, usurpers fight amongst themselves
476	Zeno besieges Constantinople
479	Revolt of Marcian the Younger
484	Revolt of the Samaritans
484–488	Revolt of Illus
492–497	The Isaurian War
512–515	Balkan Rebellion
532	Nika Riots
565	Clandestine succession engineered by Callinicus
574	Abdication of Justin II due to insanity
582	Alleged poisoning of Tiberius II
588	Mutiny on the Persian front
602	Mutiny on the Danube and murder of Maurice by Phocas
608–610	Civil war and murder of Phocas by Heraclius
602–628	Persian-Byzantine Wars
634–718	Arab Conquests

It is important to note, that for all the losses inflicted on the population by the Justinianic plague in 541 and recurrent plague outbreaks in the following decades, there was no successful and permanent coup against an emperor until the year 602. This lies in sharp contrast to the tumultuous elite dynamics found in the West in the fourth and fifth centuries.

One more measure of the Eastern Imperial cycle ought to be mentioned here. If susceptibility to foreign invasion is indeed a symptom of secular crisis and depression, it is also reflected in the history of the Eastern Empire. It is interesting to note that between the periods 296–502 and 502–628, the incidence of Persian invasions of Byzantine territory increased eightfold, despite

the fact that the former period was nearly twice as long as the latter (Fig. 3). Afterward both the Eastern Empire and Persia collapsed from exhaustion and were overwhelmed by the Arab Conquests that soon burst upon the East.

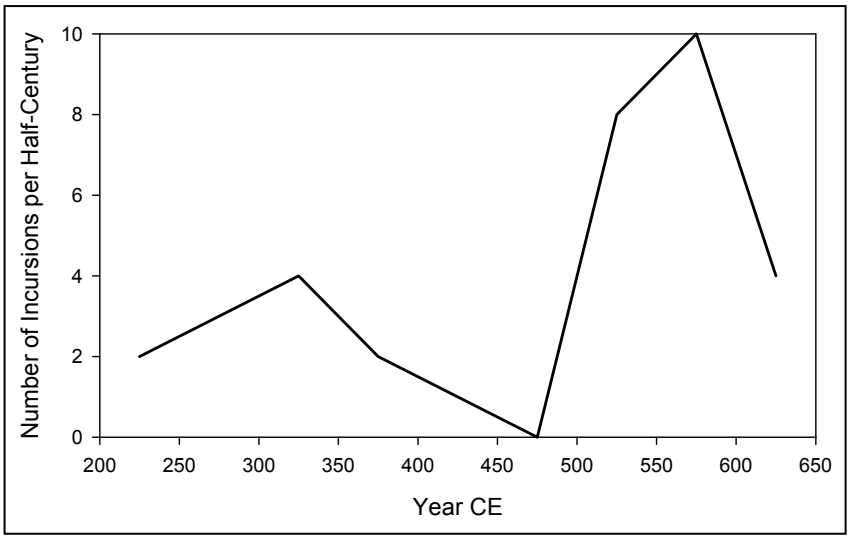

Fig. 3. Persian incursions into Byzantine territory (data from Lee 1993)

One might ask whether the defeat in the Battle of Adrianople in 378, in which the Eastern emperor Valens was defeated and killed by the Goths, provides a counter-example. The incident is often treated as a milestone in accounts of the decline of the Roman Empire. Yet the year 378 falls within the Eastern expansion phase. A simple explanation is that secular cycles do not dictate the outcome of individual battles, which are determined by a tangled web of variables: tactics, supply, numerical strength, weather, topography, and countless others. The military defeat in 378 did not signal the secular decline of the Eastern Empire. It is testament to the high social cohesion of the region that after the Battle of Adrianople, despite the death of an emperor, Gothic forces were unable to take Constantinople, or indeed even the nearest town (Ward-Perkins 2005: 35).

In general, it appears that the Eastern Empire from 285–700 experienced a secular cycle that fits well with the basic model (except for its length – approximately 400 years). To summarise, there was expansion in the fourth century, stagflation beginning somewhere in the fifth century, a crisis after the mid-sixth century, and depression in the upheavals of the seventh.

A Possible Western Disintegrative Trend (*c.* 350–400 CE)

The Third Century Crisis resulted in a great deal of elite conflict and a decline of the general population. By 285 the population was low enough to begin expanding again. Historiography is coloured by debate on when this expansion came to an end. A number of historians have argued that there was very little decline around the year 400 and see a 'cultural transition', while still others refuse to see any decline or collapse whatsoever.[2] Studies arguing for various shades of continuity and cultural transition tend to downplay signs of economic decay and the violent nature of many Germanic incursions, arguing for a 'natural' and 'organic' process. There was indeed a Western recovery after 285 continuing well into the fourth century. However, for some reason that recovery failed to match the trends seen in the Eastern Empire. Within the period 350–400 population recovery stalled. Settlement patterns suggest that the population stagnated, declined, and fell to levels that can only be described as catastrophic, particularly in Belgica and North Gaul (Fig. 4).

While the consensus among historians is that rural settlement patterns in the Eastern Empire undoubtedly indicate a form of growth, there are some reasons for caution when it comes to settlement patterns in the West. Rural sites were sometimes big, suggesting that many of them were possibly 'commercial' farms, rather than family farms. Thus, the decline in the number of settlements in Western Europe may only tell us about the health of one sector of the economy: the sector that was 'tied into commercial relations' and produced for the market. Of course, this argument ignores the fact that even if *all* rural sites that have been excavated over the years were larger farms, an index of economic development might at least to some extent imply trends in demography. While signs of settlement abandonment are not perfect indicators of depopulation and must be used with caution, there is not yet an alternative explanation for this trend that decisively discounts depopulation as a factor, much less proving that the population remained stable. The best arguments put forward now only indicate that settlement occupation 'does not necessarily' indicate a depopulation and abandonment of land (Chavarría and Lewit 2004: 31).[3]

[2] While the works are too numerous to list here, authors include: W. Goffart, R. W. Mathisen, P. Amory, D. Shanzer, G. W. Bowersock, and T. Lewit. Merovingian continuity also figures heavily in the controversial thesis of Henri Pirenne. While refreshing, stimulating, and dominating in academic settings, it has had very little impact on popular perception of the era.

[3] In general, the world does not distinguish between growth in the first half of the fourth century and signs of decline in the second half, but assign grow to the entire period (see also Chavarría 2004). The fourth century trends in Spain, however, particularly in South Spain, seem to differ greatly from those seen in Britain, Belgica, Gaul, and Italy, and the work is largely preoccupied with explaining trends of the fifth century.

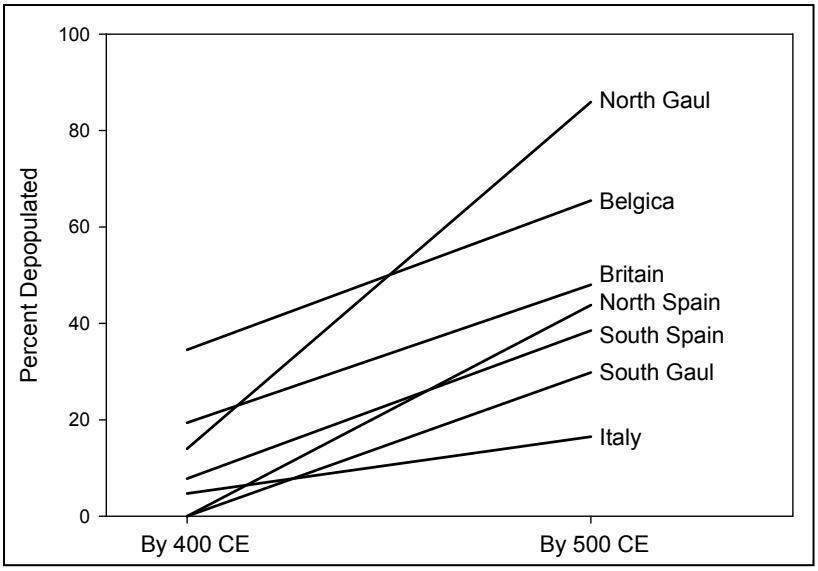

Fig. 4. Proportion of rural settlements that were completely depopulated (showing losses from peak levels *c.* 350; data from Lewit 1991)

Another objection is that the degree of depopulation inferred from settlement patterns appears to be too high. What could cause it: a plague similar in magnitude to the Black Death, impact of Germanic invasions, or mass migration to the cities? There is no evidence for any of such explanations. Massive immigration to the cities is further implausible given that cities were falling into decline in this period. However, few historians have yet taken into account demographic-structural theory, which suggests that depopulation often does not require a gigantic catastrophe, but happens more or less gradually as part of a disintegrative phase.

The economic evidence displays the same trend as the decline of rural settlements. After a brief period of recovery in the 300s, the Western economy apparently fell to a nadir point which was lower than anything seen in the disintegrative phase of the previous century (Table 3). Iron production may have recovered *c.* 300–350, but it fell to an all-time low by the year 400. Thus, only one-tenth of iron sites in Britain survived (Jones and Mattingly 2002: 180–196). A study of mines in the Iberian Peninsula shows that of 173 Roman mines in Spain, fewer than 21 were operating in the late 300s, and this number shrank again to only two in the 400s (Domergue 1990: 215–224). An impressive group of iron forges in southwest Gaul, which began recovering as early as the third century, did not make it out of the fourth (Cauuet *et al*. 1993: 68–69, 123–125).

In eastern Gaul, another iron production site shows the same pattern. It was active between the first and fourth centuries, but charcoal dated by radiocarbon fails to show any operation past 400 (Mangin 1992: 222–242).

Gold mines follow a similar pattern. The coins at Tharsis in Iberia are dated no later than 350, while at Vipasca there is only evidence of dwindling occupation in the fourth century with nothing beyond. At Rio Tinto, a small settlement had coins from the reign of Honorius possibly dating as late as the 420s, but no later. In Britain gold mines were active until *c.* 383. In Dalmatia, mining halted during the Third Century Crisis, revived on a small scale in the fourth century, but by 400 these mining operations had ceased altogether.[4]

It is unlikely that these large mines were replaced by 'small-scale' sites producing at the same level – or anywhere near it. Atmospheric pollution from mining descended on Greenland and became packed down under layers of snow and ice, with the spring thaw dividing one year from the next, similarly to growth rings in a tree trunk.

Table 3. Last known mining and smelting activity from the West to the East

Year	*Location*
300s	Lusitania, North Hispania
300s	Forest of Dean, Britannia
300s	Weald, Britannia
Early 300s	Les Martyrs, Southwest Gaul
417	Bituriges, Central Gaul
By 400	Autun, East Gaul
417	Sardinia
417	Noricum
By 400	Illyricum
360	Dalmatia
By 550	Attica, Greece
By 550	Pangaios, Greece
500s	Inner Egypt
600s	Red Sea Coast
400–600	Cilicia
600s	Cappadocia
530	Armenia

Source: see Domergue 1990: 215–224; Cauuet *et al.* 1993: 68–69, 123–125; Mangin 1992: 222–242; Hong *et al.* 1994: 1841–1843; Edmondson 1989: 84–102.

[4] See J. C. Edmondson 1989: 84–102. While the research plainly shows the closure of most western mines by 400, the author stresses a fifth-century 'restructuring' to 'small-scale' production for 'local economies'. It is revealing that no such 'restructuring' happened anywhere in the East (see *Ibid.:* 92).

Ice cores taken from Greenland allow us to devise a timeline for hemispheric pollution from lead production. They show that lead was being produced at around 80,000 tons per year at the height of Roman power. Production peaked around the time of the Principate's expansion phase, when it attained a level not reached again until 1800. The 300–350 recovery did not reach peak Antonine levels, and after the West's collapse production shrunk from 80,000 tons to only a few thousand tons per year (Hong *et al*. 1994: 1841–1843). Copper mining and smelting emissions show the same trend. The Roman period marked a sharp rise in copper production to a peak of 15,000 tons per year in the first century CE and fell to 2000 tons in the fifth century before declining further (Hong *et al*. 1996: 246–249). The lead figures are corroborated by another unusual source, a Swiss peat bog, which also serves as an archive of atmospheric metal deposition. The surface layers are isolated from groundwater and surface water and receive inorganic solids from atmospheric deposition. As a result the peat bog is a record of changing lead and scandium levels for the entire Holocene. In conclusion, the peak of Roman mining was in the first century CE. Production remained high until it declined in the third century, with a possible recovery thereafter, but production slowly dwindled in the fourth century to an early medieval nadir (Shotyk *et al*. 1998: 1635–1640).

The number of shipwrecks discovered in the Western Mediterranean drops significantly for those dated in the late fourth century (Fig. 5). What is more, the number of shipwrecks found at the bottom of the sea and dated by archaeologists follows precisely the same pattern as what has been predicted for both the Principate and Dominate secular cycles. The number of shipwrecks found in the entire third century is only 49 per cent that of the second century. The period 300–350 indicates a recovery in shipping but 350–399 yields less than 13 per cent of the ships that sunk in the preceding fifty years. The entire fifth century yields only 37 per cent of the fourth century total, including the decline period (Parker 1992: 13–15). The use of shipwrecks as an indicator of total volume must be done with caution, however, but it demonstrates an interesting parallel to the prevailing trend in other areas.[5]

In addition to many rural sites being abandoned, many others show a decline in condition. Slap-dash architecture and make-shift alterations from

[5] Andrew Wilson (2009: 219–229) points out that the decline may have much to do with the shift from the use of amphorae to barrels for containing wine. Wilson also treats the second century peak as a statistical anomaly and distributes them among other periods, by using a range of probability for a wreck sinking in a particular year rather than using Parker's midpoint. This shifts the peak to the first century CE. In the same book, see William Harris ('A Comment on Andrew Wilson: "Approaches to Quantifying Roman Trade"', *Ibid.:* 259–260), who points out that neither textual nor material evidence on land leads us to suspect a decline of trade after 100 CE and that the barrel hypothesis seems inadequate, since it is likely many regions of the Roman Empire were suffering deforestation at that time. Harris also points out that metal ingots in shipwrecks follow a contradictory trend from the amphorae first century peak.

the fourth and fifth centuries are often seen in villas. Certain parts of sites were abandoned while only sections of them remain occupied. At Horath in the Hunsrück, for instance, the principal building was definitely abandoned with only the annexed buildings being used. The same was the case at Famechon in Picardy. Even more, at Emptinne-Champion in Belgium, only part of the central building was occupied while the rest of the villa and the baths were deserted or even demolished (van Ossel and Ouzoulias 2000: 144–147).

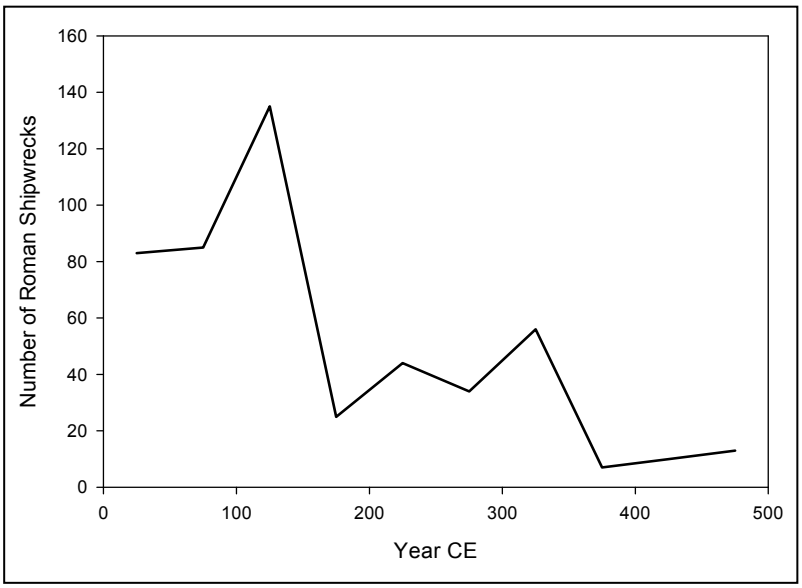

Fig. 5. The number of shipwrecks in the Western Mediterranean (data from Parker 1992: 13–15)

Cellars were reused as bakeries or filled up with debris, a kitchen was used as a boiler room, Roman living rooms were partly buried or transformed into fire-pits, an ornate gallery full of mosaics was used as a tool workshop, and a high quality building was transformed into a cowshed, and central heating was abandoned (van Ossel and Ouzoulias 2000: 147–148; Wightman 1985: 257). The utilitarian use of villas may well indicate a form of living that is closer to a subsistence level and it almost certainly indicates a drop in the number of inhabitants at the site. However, alternative explanations involving 'cultural choice' have been put forth, along with the argument that a wood building is not inherently better than one built of stone, which is a convenient argument since it leaves no evidence and one is free to imagine as an elaborate a building as one pleases (for instance, Etienne Louis 2004).[6]

[6] The works of T. Lewit will be highlighted later on.

Paleopathology, or the medical examination of ancient corpses, shows the deterioration of Western villas was matched by the deterioration of people's health. Exhumations from a site at Saint-Martin-de-Fontenay, modern Calvados, in west Gaul shows that in the fourth century CE the life expectancy was 31.5 years. This was paralleled by a site at Frénouville which in the fourth century had a life expectancy of 32. The results of the dig at Calvados show the period that was marked by 'socio-economic troubles'. A low life expectancy was accompanied by poor dental conditions, indicating malnutrition. Roughly 30 per cent of the teeth of intact mandibles were either rotten or missing. With an average age of 31.5 this is considerable. There were also a number of anatomical peculiarities indicating intense muscular strain on the legs, the front of which had bones that were almost grotesquely bowed inward (Pilet *et al*. 1994: 80–81, 93–96, 123–125, 145). A reduced stature might be attributed to poor nutrition caused by population pressure. Population pressure mounts up in the second century as is predicted for the Principate cycle, and it is subsequently relieved during the devastation of the third. The Dominate expansion phase of the fourth century witnesses population growth again, with pressure reducing the average stature, while the depopulation of the fifth century appears to have led to record heights.

A useful survey of settlement abandonment was devised by Tamara Lewit (1991). Lewit looked at two hundred rural sites from several regions in the West and determined when they were occupied. She then gave the proportions for each half-century in the form of a percentage of the highest level of occupation. In the same fashion, Lewit also determined the percentage of the other sites which were still expanding or 'remaining prosperous'. Lewit's survey remains one of the best quantitative works on rural settlements, even two decades later.[7] A re-examination of her numbers reveals an interesting pattern.

[7] Nevertheless, Lewit herself is a staunch advocate of continuity. Lewit's presentation of the percentages downplays the idea of gradual but severe decline in the late fourth century, even though some of the regions seem to indicate it. She is incredulous at depopulation after 400. She advances an array of arguments to explain where all the people went and how continuity was maintained. Of course, if there was a more gradual decline from 350, it defeats necessity of such explanations. Subsequent works of Lewit follow the same theme of continuity (Lewit 2003, 2009). For a critique of this article see Bowes and Gutteridge 2005.

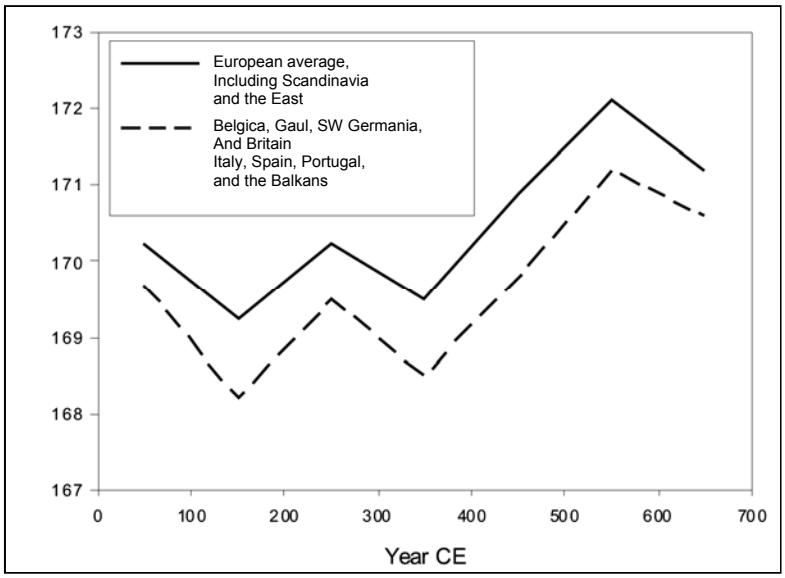

Fig. 6. Average heights (cm) of men and women from a sample of 9477 skeletons from the first century to the nineteenth (data from Koepke and Baten 2005)

In Lewit's presentation, the settlement abandonment percentages were taken from a peak index, whenever the peak occurred, whether it was the first century, as it was for Italy, the second century, where most regional peaks occurred, or the fourth century, where South Gaul and South Spain evidently peaked. These multiple indexes unfortunately detract from the clarity of the presentation. Accordingly I will use a second century index for all regions. The two of the seven regions that exceeded their second century levels will simply score over 100 (Table 4).

Table 4. Index of rural settlements occupied by region and by period (2nd Century Index) (data from Lewit 1991)

Region	*200–250*	*250–300*	*300–350*	*350–400*	*400–500*
Britain	98	94	98	79	47
Belgica	91	43	55	36	19
North Gaul	82	45	64	55	9
South Gaul	94	73	104	104	73
North Spain	96	61	93	96	54
South Spain	109	100	109	100.5	67
Italy	90	71	85	81	71

The period 200–250 CE shows a decline from the second century peak, probably due to the Antonine Plague that initiated the crisis phase of the Principate. The period 250–300 CE clearly reflects a deep decline of the worst infighting of the Third Century Crisis and secular depression phase. It is interesting to note that a region like Britain, which avoided the bulk of the fighting of this phase, only declines modestly, more like a mild recoil from the carrying capacity than a severe decline from a manmade crisis. The period 300–350 CE witnesses a universal period of growth and recovery, which heralds the beginning of the Dominate expansion phase. Then in the period 350–400 CE this growth is dramatically cut off, in contrast to what we know of settlements in the Eastern Empire. In Britain, Belgica, North Gaul, and Italy there is slight or even considerable decline well before the Germanic invasions. There are, of course, regional variations. South Gaul evidently sees no growth but only stagnation, while Spain sees stagnation or even mild growth. Lewit's figures for South Spain were inflated, based on only one study where 25 per cent of sites surveyed in the Guadalquivir valley possessed no earlier pottery. This contrasts dramatically with the drop in the fifth century. So instead an average between the two periods is taken. Also Lewit inflates the figures for Britain by 8 points after 350 because she does not accept the absence of post-350 coins as conclusive, and so counts them all as occupied. Here the original figure of 79 is upheld. Either way it demonstrates decline from the previous period *well before the Germanic invasions*.

It is important to note that the occupation index includes those settlements that declined, but were not totally abandoned after the second century. Lewit also gave figures for settlements that were expanding or were 'remaining prosperous' in each fifty year period. The remainder from these two categories shows the percentage of settlements that were neither expanding nor stagnating, that is, contracting: either showing signs of decline, partial abandonment, or destruction. The fourth century figures for Britain, Belgica, and North Gaul are worth noting (Table 5).

Table 5. Percentage of occupied but contracting rural settlements (data from Lewit 1991)

Region	*200–250*	*250–300*	*300–350*	*350–400*	*400–500*
Britain	8	20	16	38	N/A
Belgica	18	57	45	64	N/A
North Gaul	10	60	37	44	N/A
South Gaul	19	29	0	12	N/A
North Spain	3	40	4	11	N/A
South Spain	3	20	9	0	N/A
Italy	N/A	N/A	N/A	N/A	N/A

Lewit states that it is startling that the 400s saw such a rapid decline because: (1) it followed a period of continued occupation, which is only partly true, (2) it contrasts sharply with archaeological signs of growth in 300–350 in the Eastern Empire, and (3) it would require a massive depopulation surpassing the devastation of the Black Death to 'account for the abandonment of nearly every farm [*sic*] in North-West Europe within the space of about twenty years' (Lewit 1991: 37–38). Fortunately, the theory of secular cycles answers each of these points. First, the third and fourth centuries were not periods of continued occupation but one of fluctuating population levels due to the rise and fall of secular cycles (Fig. 7). Second, the prosperity of the Eastern Empire does not dictate a similar pattern in the West, since it is becoming increasingly clear that the Dominate cycle evolved differently in the East. The reasons for this difference are dealt with below: a lowered carrying capacity and the East-West disparity in elite dynamics. Third, no holocaust like the Black Death would have been necessary, if the decline in the West had begun earlier than 400, as has been demonstrated with Lewit's own figures. The demographic-structural theory presents an alternative, more gradual, and therefore more conceivable, explanation for depopulation.

Why did the Western Roman Empire Fall?

The key factor in the West's decline may have been elite overproduction. The demographic structural theory states that a disproportionate amount of surviving elites next to a reduced common population can complicate an attempt at population recovery. The historical record shows that while the East in the fourth and fifth centuries had low inequality, low elite numbers, and mostly provincial elites, each with a modest amount of wealth, the Western Empire remained throughout the fourth century glutted with vast masses of elites and the hyper-rich. This disparity may well have played a role in the decline of the West as well as the survival of the East. At any rate, it is too glaring a difference to be ignored.

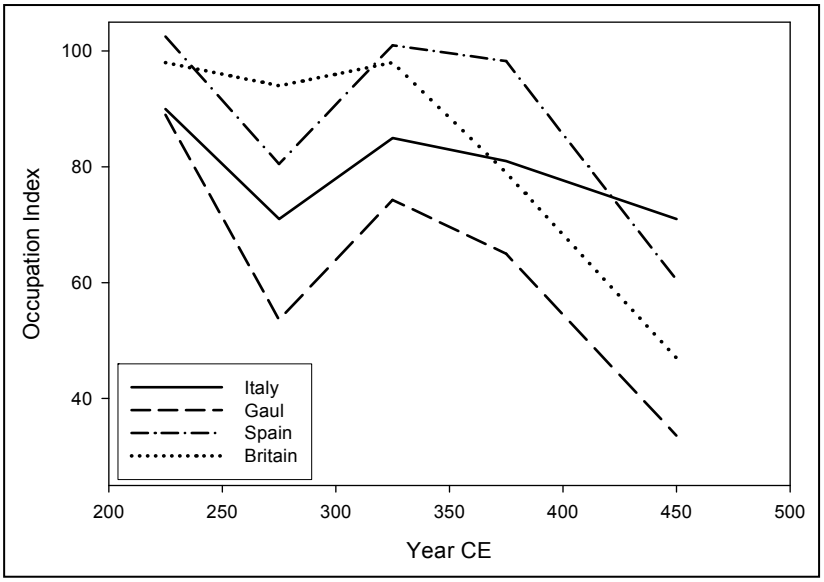

Fig. 7. Dynamics of rural settlement occupation for each major region in Western Europe (data from Lewit 1991)

Firstly, we do know that the early fourth century saw an impressive boom in large villa estates, which might indicate the concentration of land into the hands of the few. The standard explanation, the retreat of the aristocracy to the countryside, is unlikely. Instead this pattern could be explained by an early fourth century stagflation dynamic (Chavarría and Lewit 2004: 26–29). We also know something about the immense inequality gap between elite and commoner at this time. The Late Antique historian, Olympiodorus (*c.* 380 – ? CE), tells us that the richest senators of the West had yearly incomes of four thousand pounds of gold a year, while mid-level senators had around one thousand pounds a year. A commoner, by comparison, could scratch together perhaps five *solidi* in a year's toil, or less than one-fourteenth of a pound of gold.[8] It is interesting to note this disparity of wealth outstrips inequality ratios for the stagflation period of the Principate and also the most extravagant periods of later French or English history. Additionally, wealthy Roman nobleman Quintus Aurelius Symmachus (*c.* 340–405) spent around two thousand pounds of gold at one go, on the celebration of his son's praetorship, by personally financing the games in Rome. This ritual was common among the Roman elite in Late

[8] For senatorial incomes see Olympiodorus, in Photius, *Bibliotheca* (1920), frag. 44. For the estimate for a peasant's income see Ward, Heichelheim, and Yeo 1999: 446. This astounding inequality ratio and disparity of wealth is also dealt with in Turchin 2006: 160–161.

Antiquity whenever a family member achieved such a distinction, and it was a social obligation to match or even surpass the displays of splendour and consumption of a rival family (Olympiodorus 1920).

St. Melania the Younger (*c.* 383–439) came from a foremost senatorial family. She married her cousin, Pinian, around 399. After a miscarriage of two children they found religion, took vows of celibacy, and gave up their worldly possessions. Pinian is said to have held an annual income of 120,000 'pieces' of gold, on top of his wife's income of about the same amount (Gerontius 1984: 15). 'Pieces of gold' has in the past been interpreted as either pounds or *solidi*. If more realistically interpreted as *solidi*, that amounts to 1666 pounds annually, and that roughly equates with what Olympiodorus tells us about the average senatorial income. If multiplied by two, for it appears Melania held a comparable income separate of Pinian, the total income comes to around 3332 pounds of gold annually. This point has been debated among historians. Whether or not Melania and Pinian held a mid-level or a combined upper level senatorial income, it nevertheless appears that when they sold their lands, the sale temporarily caused panic and a fiscal crisis in the property market (Wickham 2005: 29). Apparently one of the estates sold by Melania in North Africa was larger than the nearest town, Thagaste, birthplace of St. Augustine (Gerontius 1984: 21). The presence of such trans-regional hyper-rich is certainly at variance with what one would typically expect to see of elite dynamics in a supposedly integrative period.

The paucity of sources from this period makes it next to be impossible to find similar quantitative data for the late fourth century. However, various written testimonies confirm the income figures of Olympiodorus and those for Melania the Younger. For instance, Ammianus Marcellinus (*c.* 325–390), a prominent imperial official and the principal historian of the period, came to Rome from Antioch and was disgusted with the decadence he saw. He writes of a certain number of idle and frivolous senators, who gorged themselves with food at luxurious banquets. They spent large sums of money on exotic dancers and prostitutes.

During a food shortage in Rome, all foreigners were expelled from the city, while the senators lobbied for three thousand dancers and ladies of negotiable virtue to remain. The Roman elite gave hugely expensive shows featuring dramatic actors. The elite were given to the habit of conspicuous consumption, and clothed themselves in effete, elaborately designed silk and dyed robes. They lined the streets with gold plated statues of themselves and their ancestors. At the baths, they were attended by as many as fifty servants. Now, some historians have suggested that Ammianus was just 'rephrasing late antique commonplaces' but that is precisely the point. They were commonplaces for a reason. Ammianus would hardly need to set up a stock figure to decry elite consumption unless there was something to decry. Furthermore, it is worthwhile

to remember that where secular cycles are concerned, it is not so much the specifics of elite behaviour that are important, or the amount of elite wealth in an absolute sense, but the gap between the rich and the poor. And that gap appears to have been very large indeed.

Elites, like the extremely influential Petronius Probus, found political power absolutely vital to protect himself and his clan in their many quarrels with hostile families and rival factions. Ammianus describes Probus as a man known for his family, influence and great wealth throughout the world and his possession of multiple estates, some of which he appropriated 'unjustly'. It was obviously an atmosphere not only of decadence but of intense intraelite competition. This is confirmed by the many court intrigues, plots, and violent coups that characterise the entire era (Table 6). Furthermore, positions like the quaestorship or praetorship, once prestigious and influential offices along the *cursus honorum* had by the fourth century become largely meaningless titles, ceremonially bestowed on the sons of rich men when they came of age. The only real responsibility of the office was to throw a public celebration on its assumption. This confronts one with the notion that the senatorial class was filled with the idle rich, and only a fraction of them stood a chance of gaining any real power.[9] As it happened, the richest Western families, the Anicii, the Caeonii, the Petronii, the Symmachi, and a handful of others, owned the vast bulk of estates throughout the regions of the Western Empire, and played a very dangerous game of faction, which often came at the expense of the state.

Table 6. Sociopolitical instability in the Western Roman Empire, 285–476 CE (from Wood 1994)

Year	*Event*
1	2
285	Diocletian beats Carinus in battle, wrests power from him
303–311	Largest and bloodiest persecutions of Christians
305	Diocletian retires, Maximian forced to retire
306	Maxentius' rebellion, Severus is betrayed by his army
309	Maximian fails to overthrow Maxentius and flees to Constantine's court
310	Maximian betrays Constantine, later kills him; riots in Rome
312	Constantine invades Italy
313	Licinius gains control of the East
316–317	Constantine fights Licinius, a truce is declared
320	Licinius persecutes Christians
324	Civil war, battles of Adrianople, Hellespont, Chrysopolis
324–325	Licinius sent to live as private citizen but soon hung
326	Constantine executes his son and wife
340	Constantine II wars with Constans for control of the West and is killed

[9] Ammianus Marcellinus 1973: 14.6.7–19 27.11.1–3, and 28.4.8–18. For an excellent analysis of this source, see Matthews 1975: 1–20.

1	2
350	Western ruler Constans is assassinated and usurped by Magnentius
351	Constantius wars with Magnentius, Battle of Mursa Major in Pannonia
353	Battle of Mons Seleucus in South Gaul, Magnentius kills himself
355	Attempted usurpation in Gaul (Claudius Silvanus)
360–361	Julian proclaimed ruler of the West, Constantius dies on the way to fight
361–363	Julian drastically reduces bureaucracy, executes many elites
364	Jovian dies, unclear by murder or natural causes
372	Valentinian I, emperor of the West, suppresses usurpation attempt
375	Valentinian II and Gratian have joint rule
383	Gratian assassinated by usurper Magnus Maximus
383–388	Civil war. Theodosius I emperor of the East fights Maximus and restores Valentinian II to the throne
392	Valentinian II is found hanged in his room, Arbogast selects Eugenius as emperor of the West
393–394	Theodosius I elevates his son Honorius as Western emperor instead; war
395–423	Honorius rules the West as a puppet of his generals, principally Stilicho till he was ousted in 408; Honorius fights several attempts at usurpation
405–410	Sack of Rome, loss of much of the West
423–425	Joannes usurps the Western throne, civil war with the infant Valentinian III
425–433	Valentinian is ruled by the faction of his mother, supplanted by the faction of Flavius Aetius
439	Loss of North Africa
454	Valentinian III treacherously murders Aetius
455	Valentinian III is murdered by Aetius' former faction, Petronius Maximus buys the loyalty of the army and becomes emperor, then is swiftly murdered, a few days later the Vandals take Rome by sea and subject it to a severe four days looting and pillage, much worse than in 410, Avitus becomes emperor, Visigoths invade Spain
c. 457	Avitus overthrown by a coup of his generals, Majorian becomes emperor
461	Majorian tries to institute reforms that threaten wealth of the nobility, he is killed and his fellow general Ricimer sizes power with senator Libius Severus as his puppet
465–467	Severus dies, Ricimer rules West without an emperor, then elevates Anthemius as his puppet
472	Anthemius, having defied Ricimer and fought a war against him, is killed, Ricimer elevates another puppet, Olybrius, both men die of apparently natural causes in 472
473	Gundobad, a nephew of Ricimer, elevates Glycenius, an unknown
474	Julius Nepos, Eastern emperor Leo I's choice, deposes Glycenius
475	Nepos overthrown by general Orestes, who appoints the ill-fated Romulus Augustulus

The historical record seems to imply that in the Western Empire, unlike the East, the elites never really disappeared. The elite classes undoubtedly lost some of their numbers in the wars of the Third Century Crisis, but it is questionable whether this decrease was enough to significantly reduce elite competition. Conversely, it appears that the events of the third century were enough to accomplish this in the East. A combination of the Persian invasions, civil war, the plague in the East from the 250s to 270s cited by Zosimus, the conquest of the Palmyrene Empire, the summary execution of much of its elite, and the sacking of Palmyra itself, seems to have been sufficient to quell the 'overmighty subject' of the Eastern Empire for nearly two centuries.[10] As already stated above, most elites operated on a provincial scale, large estates were rare, and the number of middle and small landholdings was high.

In the West, third century fighting seems to have been no less severe. The establishment of the Gallic Empire in 260 did not prevent elite infighting within that kingdom. Postumus ruled for eight years before he was murdered, and he was followed by five more rulers within the short space of six years. However, at the end of that period, Aurelian reconquered the entire Gallic Empire by cutting a deal with Tetricus II. In exchange for surrendering himself and his claim to the territory, Tetricus was granted a high political office in Italy. It is possible this clemency was extended to a number of other Western elites. The Gallic Empire fell in short order. The same clemency did not apply to the elites of the Palmyrene empire, which saw many of them executed, even while many of its towns were spared, and although Zenobia herself allegedly survived by blaming the war on the influence of her fellows.[11]

Yet it is possible that Western elite competition did not end with the accession of Diocletian. He obtained the imperial purple by overthrowing Carinus in a violent contest. There is no evidence to suggest that a decisive amount of elites perished in the Battle of the Margus (285) which decided the issue. It is true Diocletian reigned through a largely peaceful period. But on closer examination, we see that he ruled for only one year alone, and then forged the Tetrarchy. On the one hand, this may be seen as a more efficient way of administering a sprawling empire, but, on the other hand, it may be seen as a power-sharing deal among the elites. As it was, the peace brought about by the Tetrarchy did not long outlast the retirement of its founder. Furthermore, Diocletian is known for making the bureaucracy larger and taxing higher than ever before. According to the criteria, these are the traits of a stagflation phase, not the dawning of a new expansion (Turchin and Nefedov 2009: 34). If the period 285–305 was one of dubious expansion and tenuous stability in the West,

[10] For the mysterious plague which is said to have struck the Romans in their campaigns against Persia in the 250s and 270s, see Zosimus 1982, vol. 1: 8–14, and 26.

[11] For an excellent summary of the events of the Third Century Crisis see Loriot and Nony 1997: 9–17.

the period 305–325 was characterised by open elite competition and a number of violent clashes. It is noteworthy that the vast majority of such fighting took place in the Western provinces, while the East remained relatively tame. In fact, as Table 6 shows, this chaotic procession of violent elite competition in the West apparently did not cease until the overthrow of Romulus Augustulus and the 'official' end of the Western Roman Empire in 476.

The incidence of coin hoarding has been demonstrated by Peter Turchin to coincide with periods of socio-political instability. The quantity of coin finds from four excavated sites Britain, the most thoroughly studied province, shows that hoarding peaked during the severest phase of the Third Century Crisis, *c.* 260–274, when the Gallic and Palmyrene empires split off from the Roman (Fig. 8). The reign of Diocletian marked a low point in coin hoarding, but there was a rise during the wars of Constantine. The wars of his heirs were a period of extremely active hoarding, surpassed only by the worst fighting of the Third Century Crisis. There was only a slight contraction in hoarding during the usurpations and executions of the 350s and 360s. Hoarding decreased slightly in the reign of Valentinian I and was restored to peaceful levels during the reign of Valentinian II and Gratian, but then rose again by the end of the civil war that followed Gratian's assassination. Hoarding stayed relatively high right through to the turn of the disastrous fifth century.

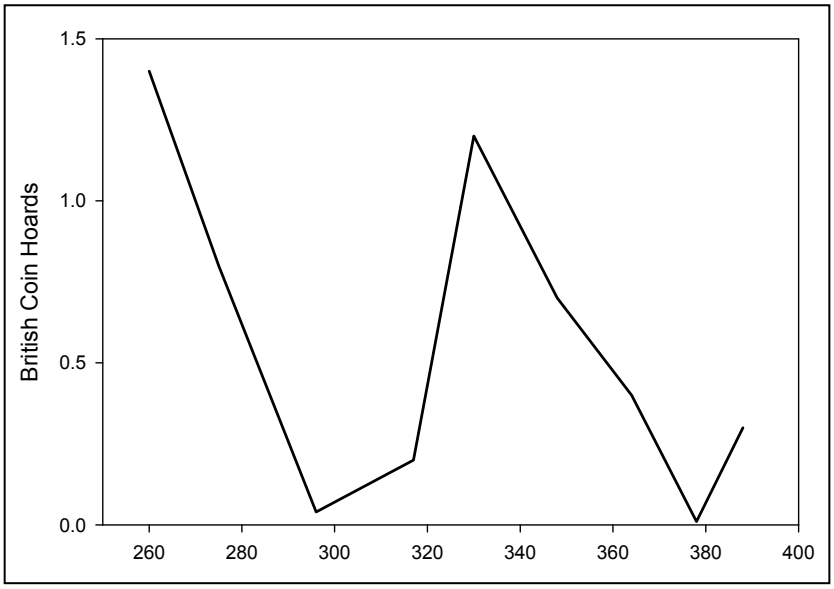

Fig. 8. Dynamics of British coin hoards at four sites, in percentages of the total between 96 and 402 CE (data from Duncan-Jones 2004)

These four sites demonstrate the near parity between the mid fourth century hoarding peak and that seen in the worst phase of the Third Century Crisis. Added to these are the average dates from 151 sites in Britain for the fourth century alone and they seem to exhibit a similar pattern (Fig. 9).

Church-building in Rome yields a different but interesting pattern for elite dynamics in the West (Fig. 10). While Gaul in section two exhibited a fourth century peak in general economic growth before collapsing in the early fifth century, elite-laden Rome shows growth to a peak in church-building well into the 400s. It might be wondered why these building projects were underway long after the West had begun to collapse. This is not so confusing when seen in the context of elite dynamics. The fifth century peak is entirely due to private patronage of the wealthy Roman elite (Fig. 10). In the fourth century, wealthy individuals slowly ceased funding traditional civic architecture. Instead conspicuous consumption began in church-building, on supposed 'religious grounds' to demonstrate the extent of one's devotion. This was nascent in the fourth century, with only two of twelve churches being built by private patronage, but reached fever pitch in the fifth.

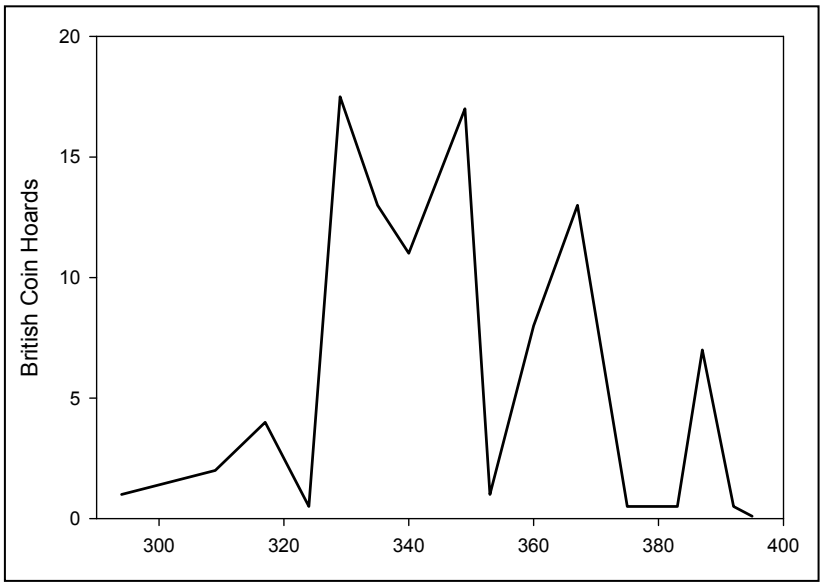

Fig. 9. Dynamics of British coin hoards at 151 sites, in percentages of the total between 294 and 400 CE (data from Ryan 1983)

While Gaul collapsed into a frontier zone in the early 400s, Rome did not fall completely until 476. Most of the church-building happened in the period of elite-overproduction and infighting that did not cease until the deposition

of Romulus Augustulus in 476. There was no fifth century construction or adaptation definitively dated after 476, with only one possibly dated prior to 483, and then nothing again until 514–523. Then in the sixth century there was a contraction in the number of churches built, especially of those built by private patronage. This stands in stark contrast to the fifth century where roughly half of the church-building in Rome was done by private patronage. This might indicate the continued wealth stratification and conspicuous consumption of the elite right up to the total collapse of the Empire. It certainly would accord with the continuous infighting we see right up to 476.

By contrast to the West, the East had very few hyper-rich and saw a relatively stable chain of succession, after it was divided between Valentinian I and Valens in 364. When Valens was killed at Adrianople in 378 he was replaced by Theodosius I, an immensely powerful emperor, who ruled the East for nearly two decades and even expanded his influence into the West.

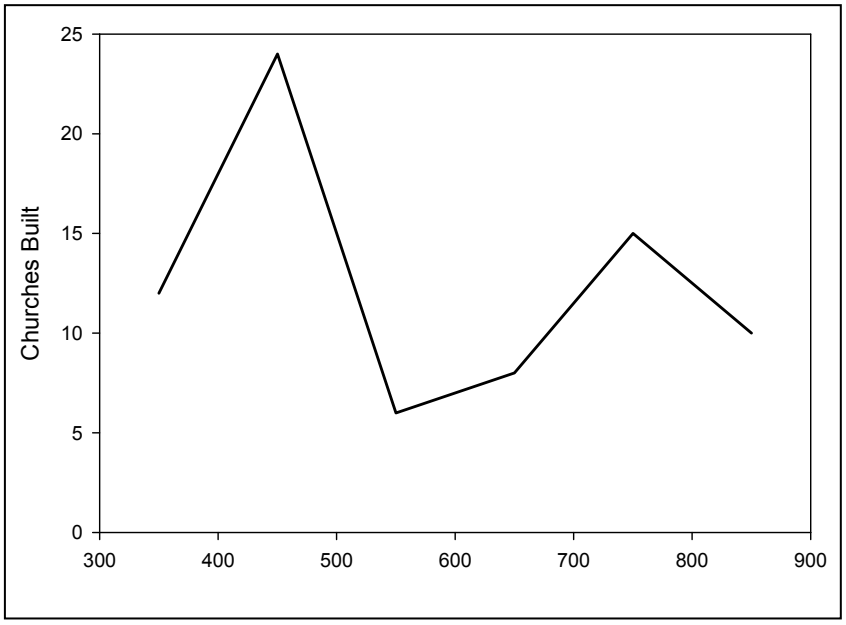

Fig. 10. Numbers of churches built in Rome per century (Randsborg 1991, who uses data from Ward-Perkins 1984)

The reign of Arcadius lasted another decade, 395–408 and the reign of Theodosius II lasted an impressive forty-two years until 450. As was stated before, no successful and permanent coup was staged against an Eastern Emperor until the year 602. That the West should have the monopoly on super-rich elites, and that the East should be extremely prosperous and stable throughout the fourth cen-

tury and beyond, while the West crumbled and collapsed, is hardly a coincidence.

Conclusion

In summary, I submit that the evidence from various quarters indicates that the Eastern Empire underwent expansion and stagflation in the fourth, fifth, and early sixth centuries as part of a more typical secular cycle. That is why it survived. The Eastern Empire enjoyed an expansion phase *c.* 285–450, when the population and elite numbers were low. The stagflation phase spanned *c.* 450–541, when large estates began to appear again, when elites became more numerous and powerful, and the frequency of elite infighting and socio-political instability increased.

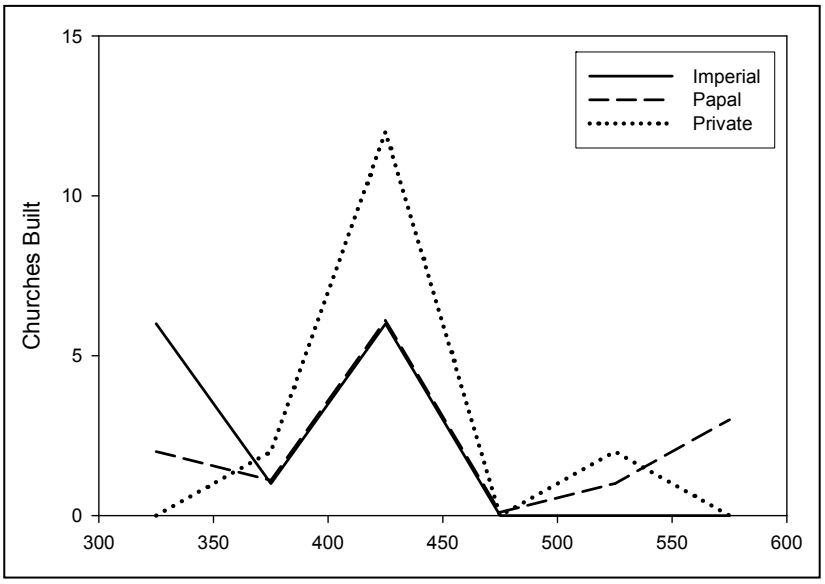

Fig. 11. Churches built in Rome by patronage (data from Ward-Perkins 1984)

The Justinianic Plague struck in 541 and reduced the common population, gradually halting the expansion of the Eastern Empire, and culminating in the usurpations and civil wars of the seventh century. This was followed shortly thereafter by collapse in the Arab Conquests. By and large, the Eastern Empire enjoyed a full secular cycle *c.* 285–700, marked by the typical phases of expansion, stagflation, crisis, and depression predicted by the theory.

Conversely, the Western Empire enjoyed only a temporary and failed attempt at expansion and recovery in the early fourth century. Even though the

population in 285 was low enough to begin another integrative phase, and grew admirably *c.* 300–350, the same force that kept the West in secular depression in the Third Century Crisis still existed in the fourth century: elite dynamics. In fact the inequality ratio was on an unprecedented scale in human history. Western elite infighting raged continually throughout the fourth century, in stark contrast to the relative stability of the East. A recovery in the West seems likely after 285, but it probably did not last much after 350. What is more, elite infighting appears to have carried on throughout this period of recovery. This is significant since the most decisive variable which defines a period of secular 'depression' following a population crisis is the elite infighting which prevents a full demographic recovery.

Therefore, within the confines of the theory of secular cycles, the Dominate conforms to the predictions laid out for it. It exhibits a number of trends which perhaps explain the total collapse of the West and the survival of the East. In evaluating these trends, we explore in new ways the well-travelled evidence and the age-old question: what caused the decline and fall of the Roman Empire? Future studies along these lines may revolutionise the historiography of Late Antiquity and irrevocably alter the discussion of questions left unanswered by older scholarship.

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