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A STUDY OF THE DEMOGRAPHY OF IMPERIAL ROME FROM THE REIGN OF
AUGUSTUS TO THE EDICT OF CARACALLA

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ABSTRACT

The population of the Roman Empire has intrigued countless minds who have attempted to understand how Rome managed to obtain such a large population. This paper looks at the data for the population of the Empire from Augustus until the Edict of Caracalla. This time period is often considered to be Rome's golden age and it certainly is in terms of surviving sources. This paper examines the elites, the plebeians, and the slave populations of Rome focusing on Italy and the city of Rome. The paper discusses the possible reasons behind the population growth or stagnation of the different classes in an effort to better understand why the Roman population exploded at the end of the Republic and the beginning of the Empire and how the population behaves from then until the Edict of Caracalla.

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Chapter 1

Introduction

The Roman Empire was one of the largest empires in human history. Its capital city was one of the largest cities of its age with over a million inhabitants calling the city home (Beard, 2015). The growth in population of Rome and the Italian peninsula was a critical factor in the Roman dominance of the Mediterranean. The behavior of the Roman population is incredibly interesting with some scholars arguing that a demographic transition occurred during the Roman Empire (Caldwell, 2004). This paper will examine the growth of the Roman population from Augustus until the Edict of Caracalla. The elites, regular citizens, and slaves will be examined to attempt to understand why Roman population behaved in the manner that it did.

The question of population growth in the Roman Empire is interesting in part because the population of Europe is roughly the same at the beginning and end of the first millennium CE (Caldwell, 2004). This is important as a population decrease during the millennium happened. This decrease was not during the period of time covered in this paper but the implication is that the population growth during the first two centuries of the millennium, covered by this paper, was offset by another event or series of events in a later part of the millennium.

The death of Augustus in 14 CE saw the borders of the Roman Empire reach the boundaries they would hold until the fifth century (Beard, 2015), though there are exceptions to this, most notably that Britannia and Dacia were added as provinces of the Empire. Yet the implication is that the Empire stopped expanding during this period which limited the amount of

money and people entering the Empire through conquest, which, during the Republic, provided extensive wealth and slaves for the citizens of Rome.

A census taken in 70-69 BCE counted 900,000 citizens in the Republic; the first census undertaken by Augustus in 28 BCE counted 4,063,000 citizens (Lo Cascio, 1994; Cooley, 2009). This increase in citizen count is astounding because of the size of the increase during a short period of time, a period of time which saw major civil unrest and two civil wars plus numerous other conflicts which would likely have taken a heavy toll of the population. This paper examines why and how this sharp jump in population may have occurred.

Chapter 2

Background Information

Historical Scope of the Thesis

Historians have separated the Roman Republic and Empire into many phases in order to better comprehend the situation of Rome and its territories during these time periods. This paper focuses on the Early Empire from the reign of Augustus to the Edict of Caracalla. The paper will, therefore, begin in 31 BCE with Octavian's victory over Anthony and Cleopatra at the Battle of Actium (Beard, 2015). While not the beginning of Octavian's true rule as the sole leader of a united Rome, it is still a good place to begin as it is often seen as the end of the republic and the establishment of the Roman Empire. This paper will then have a vested interest in the Julio-Claudian dynasty (27 BCE- 68 CE), the Flavian Dynasty (69 CE- 96 CE), the Antonine dynasty (96 CE- 192 CE), and the Severan dynasty (193 CE- 235 CE). The paper will end with the Severan dynasty's second emperor, Caracalla, as attempting to untangle the information beyond the Edict of Caracalla in 212 CE presents unique challenges that go beyond the scope of my study. The Edict of Caracalla is important as it gave citizenship to every free man in the empire, making a study of population changes in the citizen population of Rome very difficult (Beard, 2015), especially when coupled with the beginnings of the issues which will make up the Crisis of the Third Century, the Edict, therefore, is an ideal time to end this paper.

The period of Roman history before the reign of Augustus is fraught with conflict. The trends which lead to an increasing urban population in Rome and Roman Italy started during the aftermath of the Second Punic War (Beard, 2015). Most soldiers that served Rome were average citizens. When these men were away from their homes, farms, and businesses for years at a time, their families were often unable to remain in these establishments. This was particularly true for

small farmers. These issues came to a head in 133 BCE with Tiberius Gracchus' *lex Sempronia agraria* (De Ligt, 2004). This law's primary purpose was to return agricultural land to the Roman and Italian peasantry. The devastating loss of life during the Second Punic War caused many farms to be abandoned and bought up by rich men who staffed them with slaves. Many other small farms were bought out by the rich landowners in order to increase their land (De Ligt, 2004). This exacerbated the problem of depopulation and a reduction in the number of free poor men. The law was an attempt to increase the population in Italy and therefore the military manpower as the constant wars, taxes, and poverty reduced the number of free poor men and their rate of reproduction (De Ligt, 2004). This issue would be a continual challenge for Rome.

The Gracchan land reform attempt took place during an era of relative peace within Roman territory. Romans were not, at this time, fighting other Romans—though this would change within only a few decades. It is possible that the reforms of military structure attributed to Gaius Marius at the end of the second century BCE were also to fix the declining manpower situation Rome faced by opening the legions to all free men (Goldsworthy, 2000). The civil wars of the 1st century BCE caused yet more death and destruction of the Roman countryside forcing more people into the cities, a trend starting with the Second Punic War; this was part of what the Gracchan land reforms may have been attempting to reverse. Thus, by the time of Augustus the city of Rome held a million people, a population it achieved by 63 BCE (Beard, 2015). This was to be the apex of the city's population until the 19th and 20th centuries.

The population of Rome hit one million before the time period covered in the body of this paper, yet the factors which led to the population increase of the city are important. Increasing urbanization because of decreasing numbers of small private landholders is one cause. The expansion of the Republic and Rome's importance as the center of this expanding empire is

another factor. Rome was the place where the money was and where the opportunity was. Thus, many citizens and non-citizens moved to the city for these opportunities. The first census under Augustus in 28 BCE found 4,063,000 Roman citizens living throughout the Empire (Cooley, 2009). Considering the population of Rome at the time, a large number of the inhabitants of Rome may not have been citizens, meaning they would not have been counted in the census.

The time period of 31 BCE until 212 CE is a period of peace within Roman territory termed the *Pax Romana*. There are only two instances of major civil disorder, the year 69 CE, known as the year of the four emperors, and the years 192-193 CE (Beard, 2015). These two instances occur with the death of the last emperor of a dynasty. During this time period of peace, trade was able to flow freely between different areas of the empire and the people generally prospered (Beard, 2015). There are many surviving records and inscriptions from this time period which allow for a detailed analysis of Rome and, in particular, population.

Roman Population

Citizenship was the critical distinction in Roman society; much importance was placed on being a citizen. Citizenship was usually acquired upon birth and could be held by both men and women. Children born to two Roman citizens were automatically citizens. Children born to one Roman parent may be a citizen if the father is a Roman citizen and the mother had the right of intermarriage with Roman citizens. If the mother was the Roman citizen and the father a non-citizen, even with the right of intermarriage, the child was not a Roman citizen. Citizenship lay with the father (Cherry, 1990).

Citizenship could also be earned or given. Many local elites, particularly subject kings who caused no trouble, would be given citizenship to increase their loyalty to Rome (Beard, 2015). The way citizenship was gained that has gathered the most attention is the auxiliary

system. Men who served Rome in the military would be given citizenship, along with their immediate family, upon discharge from the army (Beard, 2015). In practice, this meant that maybe half of the men enlisting in the auxiliary would survive the full-service period, ranging from 20-30 years depending on when each enlisted. Most of the men who did not survive the full period would have died in service, though a small percent may have left the military through various means (Caldwell, 2004). The freeing of slaves, or manumission, accounted for the highest proportion of citizens not coming through birth. It was quite common to free slaves in Rome, particularly if they were getting older, as it allowed the slave owner to be rid of having to take care of the ageing slave and still have the slave's family owe him service through the Roman client system. Slaves freed this way were given citizenship upon being freed (Beard, 2015).

This paper will look at three classes with the Roman world: the elites, the common citizens, and the slaves. The elite class, for this paper, will incorporate the patricians, the *equites*, and the senatorial class. Roman class systems were complicated, especially when it comes to the elites. The patrician class was the traditional elite class of Rome; however, by the late Republic changes in laws had relegated the distinction between patricians and plebeians to mere superficial differences (Beard, 2015). The social rank of a citizen was determined by two things: ancestry and wealth. By the late Republic, ancestry, while still important, was secondary to wealth in determining someone's social status. The *equites*, also called knights, were primarily wealthy people who may or may not have held political office. This class was based upon wealth. The class was initially determined by having enough money to afford a horse and equipment for war, making this class the cavalry of Republican Rome. After this system of recruitment was done away with, the class was purely about wealth (Beard, 2015). The senatorial

class was populated by those who were elected to a political office or whose family members had held political office. The numbers of senators did occasionally change, and by the time of Augustus there were around 600 senators. Senators had the highest wealth requirement of any group at over a million sesterces, compared to 400,000 for the equites (Beard, 2015).

The common citizens are made up of the plebeian and proletarian classes. The plebeian class made up the bulk of the Roman populace. A plebeian could be a member of the senatorial class as “plebeian” was a term based on ancestry like the term “patrician” (Beard, 2015). However, as most Roman citizens were not wealthy and were not part of the elite, it is still appropriate to use the term plebeian. The *proletarii* were the lowest class of citizens. They were often considered to be the landless poor but still were Roman citizens.

The third class to be looked at will be the slave class. This class is important as many slaves would be freed by their masters, in fact much of the imperial administration was staffed by freed slaves who, became Roman citizens and whose offspring were Roman citizens if they fit the requirements (Beard, 2015).

The foreign non-citizens, *peregrini*, are not featured in this paper. While there are several reasons for this, the main reason is that many of them would not become citizens. The *peregrini* did not constitute a large percentage of the population of Italy during the time period covered by this paper, though they do constitute a large percentage of the provincial population (Beard, 2015).

The population of Roman Europe at the beginning and end of the first millennium was roughly the same (Caldwell, 2004). There are three possibilities which could explain this, none of which are mutually exclusive. First, the population of Rome may have decreased and then increased again after the fall of the Western Roman Empire. Second, there may have been

stagnant growth with fertility equaling the death rate. The final possibility, and the most likely, is that there was a small but steady increase in the population, similar to the rate increase seen in other areas of the world and at early periods in European history (Caldwell, 2004). The reason why the total population numbers are similar at the beginning and end of the millennium would then be due to the disease and conflicts which struck during the period, principally the Antonine plague and the plague of Justinian (Caldwell, 2004).

The only exception to a steady increase in population from fertility was among the elites who voluntarily kept their numbers of children low in order to decrease the risk of losing, or breaking up, their families' patrimony (Caldwell, 2004). The elites may have also suffered from lead poisoning (Beard, 2015; Delile, 2014). Water was brought into cities via lead pipes, however, whether this could have caused lead poisoning is still being debated by scholars (Delile, 2014). Roman drinking glasses also appear to have been made of lead, but this was limited to the high-ranking members of Roman society and the debate is still ongoing over the deadliness of this exposure to lead. The elite were a small class as studies have shown that the Empire had around 300 administrators from the senatorial class during the reign of Emperor Trajan, who ruled 98 CE -117 (Beard, 2015).

Urban residence was very high amongst the average citizens by the Imperial era (Beard, 2015). Increased urbanization was caused by several factors including a highly monetized economy, better working opportunities in the city, and a loss of farmland in the countryside. The state of the housing for the poor in a Roman city was atrocious and would have contributed to a lower birth rate and higher death rate amongst the populace, as the small cramped housing shared with other families would have disincentivized having many children (Hermansen, 1978). This would also have been reinforced as the children would not have been able to support some of the

cost of raising themselves as rural children do by working on farms (Hermansen, 1978). The increase in the number of commercial farms worked by slaves also pushed many families into the cities. This is coupled with 15-20% of the young male population joining the legions, with only half retiring, thus causing the loss of a sizable number of children of Roman parents, as well as fathers for potential children (Caldwell, 2004).

Slaves made up roughly 20% of the Roman population (Caldwell, 2004). During the late Republic and early Empire most farming was done by slaves on latifundia, large estates owned by senators. Many of these slaves would not have had children (Caldwell, 2004). While some slaves did reproduce during their enslavement, many did not as the possibility of being freed was quite high for certain slave professions. Skilled workers, house servants, and many other slaves whose jobs were serious health hazards, like miners, could reasonably expect to be freed or to buy their freedom. They waited to have children till after freedom so that their children would not become slaves as well (Beard, 2015).

Chapter 3

Methods used to study Roman Population

The Roman census was initially founded by Servius Tullius, one of legendary kings of Rome (Beard, 2015). The object of the census was to determine military service and voting positions; as well as taxes in the Republic, though it was only used for taxation purposes in the Empire (Beard, 2015). The censuses were supposed to be conducted every five years in order to keep an accurate count of the Roman population (Office of National Statistics, 2016). The census would be conducted on an appointed day by census takers. The census takers would be sent from Rome to various cities and towns throughout the Empire where people would gather for the appointed day (Beard, 2015). In the Empire all citizens would be counted as taxes would be accessed through the census. Roman citizens would be the most important group to count as the government wanted to know who was a Roman (Beard, 2015).

A major issue for studying Roman population changes, and particularly citizen population changes, is the argument as to who is counted in the census. The last census under the Republic in 70-69 BCE listed 900,000-910,000 citizens (Lo Cascio, 1994). The figure from the Augustan census of 28 BCE listed 4,063,000 (Cooley, 2009). The question of how such an increase can have occurred is hotly debated but it leads to a critical problem: who is counted in the census? Citizens are counted, but whether only male citizens are counted is the question. During the Republic, the answer was yes, only male citizens were counted. However, the massive increases in the figures would suggest that the male citizen count quadrupled in 50 years. The argument is then whether women and children who were also Roman citizens were counted in the Augustan figures. Modern scholarship leans towards only males being counted in the Augustan figures (Lo Cascio, 1994). There are further issues with the census data as well, the

primary one being how many people were not counted. Even in modern censuses undercounts are very common and there is no reason to believe that the Romans were able to count every single citizen. Therefore, the numbers may not reflect the actual population. Ancient writers often exaggerated numbers of combatants during battles, and the census figures as they report them may suffer from the same issues.

The census figures which are available survived through different sources. The figures for the Augustan censuses have survived through the *Res Gestae divi Augusti*, a work written by Augustus which details all his achievements. This work has been found carved into temples dedicated to Augustus and has literally survived inscribed in stone (Beard, 2015). Other census figures have survived through written works such as the works of Livy (Frank, 1924). These sources provide little if any information on slave population numbers.

Chapter 4

Elites

The elite population of Roman citizens was composed of different wealth groups. By the time of the Empire the patrician status had little importance if the patrician had no money as wealth denoted status. Therefore, the *equites* and the senators became the standard of the elite. There are differences between these classes, however, the senators were the political, social, and economic elite. They held the real power in Rome and in her provinces, apart from the Emperor. The senators are the ones who wrote the histories and served as the top administrative officials of the empire. The *equites* were still important, but their power was limited, and they would often be used by emperors to weaken the senate's power further (Beard, 2015).

The elites composed a small proportion of the empire's population (Beard, 2015) for two reasons: wealth distribution and the need to keep the family wealth secure. The first reason is self-explanatory: there is a limited amount of wealth available within the Empire therefore only a few people have the means to meet the wealth qualifications to be members of the elite. The second reason explains the internal motivations for the limited growth of the elite population.

The Roman elite by the time of Augustus had minimal population growth and may have had a small negative growth (i.e. trend of population decline). The reason why this seems to be the case is a law Augustus passes which regulates marriage and family size for the elites. This law suggests Augustus was worried about the number of elites that were available to him (Frier, 1982). The elite population purposefully kept its numbers low in order to reduce the risk of losing power. Power in Rome was based on wealth; the more money available to a family the more they could influence politics and the emperor (Beard, 2015). Because of this, money was

kept within families as often as possible. To accomplish this, the family needed to reduce the chance of the family patrimony being split between too many heirs.

The necessity of keeping the family wealth intact could be accomplished by reducing the number of children. This is supported by Augustus' law incentivizing elites to have more children. The desire of the elites for a small number of children meant that the population of the elites would also grow slowly. The elites used a variety of ways to keep child numbers low. The practice of exposing children was very common amongst the elites-- the child was not killed but was instead abandoned (Beard, 2015). These children were often taken in by other people who found them. There were also various contraceptive methods available to the Romans that would reduce the risk of a child being born (Beard, 2015). Children also had a high mortality rate, with an estimate of 1 in 3 children dying before the age of one and with half of all children dying before their fifth birthday (Frier, 1982).

Augustus' law also tried to control the sexual activity of the elite population and contain it within the marriage. This did not work and many elites, particularly men, would have frequent sexual encounters outside of their marriage (Beard, 2015). This certainly reduced the number of births within marriage and therefore the number of legitimate children. Any children born under these circumstances would not be recognized by the family unless necessary (Beard, 2015; Cherry, 1990). This leads into another practice common amongst the upper class: adoption.

Adoption was very common in the Republican period; two of the greatest and most well-known Romans were adopted by a senatorial family including Publius Cornelius Scipio Aemilianus and Octavian (Beard, 2015). These adoptions held several different purposes, from alliance making to inheritance (Beard, 2015). The inheritance factor is the important one in this context. A lack of male heirs meant the loss of the family patrimony and the end of that branch

of the family line; adoption allowed the line to continue. Octavian was adopted by Julius Caesar because Caesar had no sons, to his knowledge, and he needed an heir. The Antonine dynasty, one of the dynasties in power during the time period considered in this paper, is well known for its use of adoption. Of the six emperors, four were adopted by the previous emperor because he had no sons. Only one of these emperors had a biological son (Beard, 2015). This prevalence of adoption shows that the elites were not having many children. Part of the reason why was the need to reduce the number of heirs, but that only works if there is an heir. This means that there were likely other factors at work.

Child mortality affected the number of children surviving to adulthood and certainly contributed to the lack of population growth amongst the elites. Yet this still does not fully explain the issues affecting the elites as high child mortality was not uncommon in the ancient world, including among Roman citizens who were not elites. Lead poisoning has been one possibility argued to be affecting the Roman population, and the elite would have been no exception (Delile, 2014). Roman water pipes were made of lead which means people were exposed to lead daily. The argument for lead poisoning contends that the constant drinking of water that ran through lead pipes caused the population to have a number of cases of lead poisoning. "...the labile fraction of sediments from Portus and the Tiber bedload attests to pervasive Pb contamination of river water by the Pb plumbing controlling water distribution in Rome. Lead pollution of "tap water" in Roman times is clearly measurable, but unlikely to have been truly harmful." (Delile, 2014: 6598) The Romans also used lead for drinking and eating ware which would have exposed the user more directly; this may have been especially true among elites. The makeup used by Roman women also had lead in it. While all this lead may not

have poisoned the population as a whole, it could have affected fertility particularly in the elite whose levels of lead exposure may have been particularly high (Beard, 2015).

The limited number of births of elite children meant that by the time of the Emperor Trajan and Pliny the Younger there were only 300 elites available as magistrates for the empire (Beard, 2015). Though not all elites would have been magistrates--they were usually senators and not *equites*--this is still a small population for the size of the empire. Other factors are at work and they are complex and deal with politics and education, but the point remains that the population of the elites was extremely low for the size of the empire. This can be seen in the use of soldiers and officers for civilian administration throughout the empire as there were not enough elites to fill all of the necessary roles in the administrations (Beard, 2015)

The elite's relationship to disease is quite complex and interesting. Roman elites often had homes and estates outside of the city of Rome (Beard, 2015). However, many of these elites still had to remain within urban centers and, in particular, Rome. These urban areas were breeding grounds for disease (Frier, 2000). Pliny the Younger and Tacitus both discuss disease amongst the senatorial and equestrian classes (Frier, 2000). These accounts show that the Roman elite had to contend with disease which would have greatly affected the population growth rate.

There were ways of becoming an elite other than being born into a family which was elite. Foreign elites would often be granted citizenship if they cooperated with the Roman administration (Beard, 2015). This enfranchisement was a gift that the Romans bestowed on the foreign elites, but it may also have served to increase the numbers of the Roman elite available to hold important offices in the Empire. Yet, the limited number of foreign elites given citizenship, and their reluctance to leave their homelands, limited the effectiveness of increasing the numbers

of elite through these means. The elite still had low birth rates and low populations despite this measure.

Chapter 5

Plebeians

The regular citizens of Rome were the main portion of the citizen population. In 28 BCE, the census reported 4,063,000 citizens. Of this number, the vast majority of the citizens were not of the elites. The 4,063,000 citizens reported were probably males (Lo Cascio, 1994). With this information, we can estimate that the total number of citizens was approximately 10 million (Scheidel, 2007). At the time of the census in 28 BCE most of these citizens would still be living in Italy. The number of citizens living in Rome itself is hard to quantify. During this period the city of Rome had an approximate population of one million while Italy may have had 20 million total inhabitants by the middle of the Principate (Scheidel, 2007). Italy was also highly urbanized with over 400 cities that are known. Cities were legal constructs and did not define the number of inhabitants, thus it is hard to use total numbers of cities to support the notion of urbanization (Scheidel, 2007). That said urbanization in Italy and in the Empire was quite high. Estimates for the Empire range from one in seven to one in six people living in urban communities (Scheidel, 2007; Frier, 2000).

The number of citizens living in urban areas in Italy was higher than the number living in rural communities. The increasing commercialization of agricultural land in Italy by senators and other wealthy members of the citizen class pushed the average citizen into towns and cities and replaced them with slaves on farms in the countryside (Frier, 2000). The need to supply Rome with grain from outside Italy supports the limited numbers of citizens living in rural areas. Rome needed massive amounts of grain and other foodstuffs to stay fed. These amounts were not able to be produced locally because of a lack of agricultural land. Agricultural land would have been limited in Italy as the high urbanization meant that there was less land available for large scale

agriculture. This is coupled with the geographical layout of Italy which is heavily mountainous in its interior and during antiquity most cities were founded along coasts and rivers (Frier, 2000; Scheidel, 2007). This means Italy did not have the land needed for the large-scale agriculture needed to support Rome and the other cities and towns. The land that was available was owned by large landowners and organized into *latifundia*, a process which had been occurring since the Late Republic as the Gracchan land reforms were about providing more land to the common citizens (De Ligt, 2004)

Birth rates are hard to calculate for the plebeian class. It has been argued that birth rates were very low for the plebeian class; evidence for this argument stems from Augustus's marriage laws, however these laws were only for the elites and are not applicable for the plebeian class. In reality, most scholars agree that the plebeian class would have had a relatively high birth rate similar to other pre-industrial societies (Lo Cascio, 1994). This example illustrates the major issue for studying plebeian population data, that the records were written by elites for elites; this problem will be worse for the slaves. Walter Scheidel calculates that the average woman who survived until menopause gave birth to 4.5 to 6.5 children (2007). This number includes any woman who survived until, roughly, her fiftieth birthday. In the Roman world most births would have occurred in marriage and not every woman would have been married. The mean fertility rate for married women was likely to have been 6 to 9 children (Scheidel, 2007).

These fertility rates could have been affected by lead poisoning. While lead objects were quite common in the Roman world, their impact upon the general population would have been lower than their effect on the elites. The average Roman citizen would not have had access to everyday objects made from lead to the extent that the elite population had. Hugo Delile et al. argue that the amount of lead present in Roman life would not have been deadly; however it

could have caused fertility issues in the elites (2014). If the elites could suffer from fertility-related issues from possible lead poisoning, this means that while it is possible a plebeian could suffer a similar issue, the more limited contact suggests that lead would have been less likely to have affected the plebeians in a meaningful way.

The plebeian class sacrificed many of their young men for the glory of Rome. At least 10-20% of all male citizens were serving in the legions at any given time; this number is incredibly high and must have had consequences for the Roman population (Caldwell, 2004). These were young men serving enlistments of 20-25 years depending upon when they served in the Principate. The issue for the Roman population was twofold. First, only half of the men would survive their time under arms meaning that the half who did retire would be in their 40s and only have 15-20 years of life left (Scheidel, 2005b). The second issue is more problematic for the population, namely that legionaries were not allowed to be married. This rule was most likely enforced during the reign of Augustus as part of the wide-ranging reforms of the military (Southern, 2006).

The ban on marriage may have been ordered for several reasons which are not important in this context; what is important is how the ban would have affected birth rates for the plebeian class. The soldiers would have been members of the plebeian class and were Roman citizens. The ban on marriage meant that any child fathered by a legionary during his term of service was considered illegitimate (Cherry, 1990). This is because of the Minician Law which was passed during the Republic but still in effect during the Empire. The law stated that a child born of a male citizen and a non-citizen female would be considered an illegitimate child and would not have Roman citizenship. Many emperors would make decrees granting citizenship to all the

children of legionaries, but the plebeian class was hurt by the lack of legally recognized offspring from those in military service.

Military service had another issue for the plebeian class in Italy: namely that the legions were stationed in the provinces. Augustus settled retiring legionaries into colonies spread around the Empire (Frier, 2000). Succeeding Emperors would follow this practice until the Emperor Hadrian ended the policy, allowing legionaries to settle where they wanted--this was usually the area around their legionary camp and not back in Italy (Frier, 2000). This meant that most men who enlisted in Italy would not return to Italy.

The remaining male citizens would have most likely lived an average life. They would have married Roman women for the most part. Some men would marry non-citizens or even slaves freed for marriage (Beard, 2015). The women would have followed a similar trend as the men though there are fewer records for male slaves being freed for marriage purposes compared to female slaves.

Disease was a major issue for the citizen population. Various diseases were a constant threat during the period of the Roman Empire as germ theory was not known and the cities of the Empire were unhygienic with little in the way of waste management projects. The Tiber River was so polluted that the renowned physician Galen warned against eating fish caught in the river (Frier, 2000). Infectious diseases were most severe during the summer and fall. While within the city of Rome malaria was a constant killer as the Tiber was an exceptional breeding ground for mosquitoes as were the still waters of gardens and pools throughout the city (Frier, 2000; Sallares, 2002).

During the Principate there was a severe disease known as the Antonine plague. This plague began around the year 165 C.E. and would kill anywhere from 1% to 30% of the

population (Beard, 2015). This disease may have been smallpox, but it is impossible to know for sure (Beard, 2015). What is known is that this disease killed many people in the Roman Empire and some evidence suggests that enough people died from the disease to cause wage increases (Scheidel, 2007). This disease is seen by some scholars as the peak of the population of the Roman Empire as after this disease abates the Empire goes through multiple catastrophes which cause more population decline (Scheidel, 2007).

Chapter 6

Slaves

The study of Roman population must entail an investigation of the slave population. The slaves of Rome represented every cultural and ethnic group within and surrounding the territory of Rome. They constituted a significant percentage of the population and were employed in almost every profession and job in the Empire. The Romans themselves believed that the first inhabitants of Rome were from the lowest class of persons, criminals, illegitimate persons, slaves and any other group shunned by society (Beard, 2015). This can partly explain the Romans' use of manumission. Manumission was common in Roman society meaning a not insignificant number of citizens were either slaves who had been freed or the descendants of freed slaves (Beard, 2015). Manumission would be most common for a slave who had outlived his/her best working years. It was a common tool to avoid paying for the care of an elderly slave. Slaves who were freed this way would still be required to serve their previous owner as they would now be a client of that person (Beard, 2015). This means that the total slave population is very important for understanding the nature of the Roman population overall.

It is difficult to determine what the slave population of the Empire or Italy was at any time during antiquity because of the limited source material. Since the middle of the 19th century scholars have attempted to use ancient sources and studies involving the carrying capacity of Italy (Scheidel, 2005a). The issue with ancient sources are (a) that they do not give numbers for slaves, (b) that any information they do provide is untrustworthy as ancient authors have a tendency to exaggerate information and particularly numerical information, and (c) that there are only a limited number of these sources, meaning it is almost impossible to verify the information given in one source with another source.

Studies of carrying capacity involve comparing the total population a region could sustain and then taking a percentage of that number to be slaves. The issue with this method is that there is no known percentage of slaves for Roman Italy. All the percentages used are estimates which are based on known slave societies. However these societies are not Roman and are not societies from antiquity, meaning the numbers are dubious (Scheidel, 2005a). The only ancient source which gives slave totals is from Roman Egypt, which is useful, but it is not from Italy which is the main geographical territory for this study.

Slaves came from three main sources; birth, wars, and people sold into slavery. The numbers of people born into slavery are impossible to know. The best estimates would come from using the birth rates for the plebeian class. These rates may or may not be accurate as the factors for the two classes are greatly different. Even amongst slaves the different occupations would put different levels of strain on people, and this does not include the preferences of the slave's owners who may or may not want slave children. The likely plebeian birth rate of 4.5 to 6.5 children could be lower by at least one child on average because of these factors (Scheidel, 2007).

Wars brought many slaves into the Empire as war booty and slaves brought in through these means are better documented than the numbers of people who became slaves through other means (Beard, 2015). However, these documents rarely give an indication of where these slaves are sold to, meaning it is hard to use this information to estimate the number of slaves in Italy or in Rome. Bruce Frier estimates that at least 10,000 to 15,000 slaves entered the Empire from skirmishes and raids across borders (2000). The Jewish revolt of 70 C.E. saw 97,000 men, women, and children put into bondage (Frier, 2000). There are documented cases of these war captives founding their own communities in their new home after they were freed. Philo, an

Alexandrian Jewish philosopher, believed “that most of the Jewish population of Rome under Augustus consisted of freedmen, brought to Italy as war captives and set free by their owners...” (Price, 2012: 5). This illustrates how slaves are routed into the general citizen population.

Slaves would also come from slave traders. These slaves could come from outside the Empire or from inside the Empire (Beard, 2015). These people could have become slaves through numerous means. For instance, various criminal and pirate groups sold captives who were not worth ransoming into slavery. This method would be the hardest to track as these criminal groups would not keep records which would survive to the modern day. Pirates were most active when there was great instability at the political level and economic hardship at the local level. The waning years of the Republic saw great pirate activity with notable examples being Julius Caesar being kidnapped by pirates and held for ransom (Beard, 2015). Many of the major pirate groups were eliminated in the late Republic by Roman military missions (Beard, 2015).

These three means of becoming slaves were the main ways that the slave population in the Empire would acquire new members. There may be other ways but ultimately most slaves could have traced their entrance into servitude through one of these three means.

Slaves constituted a vast majority of the internal migration. Many of these slaves were of Eastern origin, Eastern meaning from the Eastern Mediterranean. These people mostly came from Anatolia and Syria (Frier, 2000). Ancient sources indicate that many household slaves within Rome were of Eastern origin. This may be because of the high urbanization in the Eastern Mediterranean (Scheidel, 2007). There were also large numbers of free people of Eastern origin in Rome who were Roman citizens. This information can be seen by studying epitaphs on

gravestones. It is highly likely that these people were slaves who had been freed or were descended from freed slaves (Frier, 2000).

The number of slaves in Italy needs to be split between the urban and rural sectors. Scholars in favor of the 'low count,' the lower end of the population estimates for Roman Italy, place roughly 300,000 slaves in Rome itself and another 300,000 slaves in all the other cities of Italy combined (Scheidel, 2005a). This provides a total urban slave population of 600,000. Other estimates suggest 440,000 slaves in Rome with 560,000 in the other Italian cities (Scheidel, 2005a). These numbers seem low if Italy has a total population of 20 million inhabitants during this time. Therefore, the slave numbers for the rural areas of Italy need to provide the disparity.

The trend of urbanization during the Late Republic and Early Empire meant that slaves were becoming the dominant workforce in the rural areas. Agriculture has been one of the main enterprises of slavery and it was no different for the Romans. Slaves worked the fields and tended to crops. This is especially true of cash crops such as grapes and olives (Scheidel, 2005a). These crops required extensive land in order to produce enough of the crop to make either wine from grapes or olive oil from olives. This required many laborers working in different capacities on these great farms. The farms were staffed by slaves as the men who owned the farms were rich senators and merchants from Rome. These men were able to afford the numbers of slaves needed to do this level of work (Scheidel, 2005a). Scheidel (2005a) gives an estimate of 500,000 to 700,000 total slaves employed in the agricultural sector and suggests that very few slaves would have been involved in other rural industries such as forestry.

These numbers combined equal 1.7 million total slaves in Italy if the high end of the ranges is used. It is important to note that Scheidel does endorse the 20 million figure for the population of Italy. The total number of slaves in Rome and other urban areas seems to be

roughly accurate as the total citizen population must be factored in as well as the non-citizen free population. The numbers of slaves involved in agricultural production and in the rural parts of Italy, however, seem to be low. Agriculture was dominated by the wealthy class who would have attempted to keep costs as low as possible. Therefore it seems hard to believe that slaves would not have been responsible for providing their own food. Scheidel (2005a) believes that the slaves would have mostly been fed by buying grain and other foodstuffs from other farmers. The slave owners would have had their slaves grow their own food if it were cheaper than buying it from other farmers. It is possible that this would have made economic sense even if only some of the necessarily food was grown in this manner. It thus seems reasonable that at least several hundred thousand more slaves would have been occupied in farming across the Italian peninsula.

Slave mortality depended upon where the slave lived and what his/her occupation was. Certain jobs and certain areas had higher rates of death than others. The amount of death from disease and occupational hazards would have been quite different. There was little an owner could do to protect his slaves from disease at this time period whereas it was in the owner's interests to not work slaves to death (Scheidel, 2005a). This does not mean slaves never died from work, but the death rate would probably be close to that of the regular Roman population. Slaves were also freed by their masters at relatively high rates compared to other slave societies (Scheidel, 2005a). This means that the growth rate for the slave population is hard to calculate as the birth rate and death rate are probably about that of the regular classes and the rate of slave imports and exports from Italy is difficult to calculate without exact records which do not exist.

Chapter 7

Concluding remarks

It is hard to say if a demographic transition occurred across Roman society as the data does not survive in large enough quantities to make this clear. The data that do survive indicate that something was causing a decrease in birth rates for the elites, however, other evidence shows that the general population likely maintained birth and death rates consistent with other pre-industrial states. A demographic transition can occur in a couple of ways, but chief among these is a significant change in the birth or death rates. The elites do have a decrease in birth rates compared to the plebeian class. This change is the result of a need to keep the patrimony secure and not have it divided amongst multiple heirs. The elites do not see a drastic reduction in death rates, however. These trends combined appear to have led to the tiny population of elites in Rome and a possible demographic transition to low fertility amongst the elites. The plebeian birth rates are high, and the death rates are also high. There is no evidence for a demographic transition amongst the plebeian classes. Likewise, there is no such evidence among the slave class.

The limited change in population numbers in Europe if we compare the beginning and end of the first millennium cannot be explained during the time period covered in this paper as the total population of Italy was likely increasing at this time even if it was only by a small amount. Great demographic change must have come with the increasingly challenging position Europeans faced starting from the third century and ending within several centuries of the end of the millennium to have equalized the population numbers. There are multiple events which could have contributed significantly. The Criss of the Third Century, the great migrations of the fourth and fifth centuries, the fall of the Western Roman Empire in the fifth century, or the Islamic

expansion of the sixth, seventh, and eighth centuries could have all contributed to a loss in population as they represented processes of great social and political upheaval. However, the emergence or reemergence of the plague caused by *Yersinia pestis* during the reign of Emperor Justinian would have caused significant death and could be the main reason for the population decline. All these events should be studied as prime suspects in the population decrease which must have happened.

The Roman citizen population of the first and second centuries appears to have been increasing at the normal rate for pre-industrialized societies. This does not explain the jump in the census figures of 28 BCE compared to those of 70-69 BCE. While population growth amongst citizens was likely a factor, some of the increase likely had to come through granting of citizenship to non-citizens and through the manumission of slaves. This is because the increase in the totals was likely not caused by counting all citizens including women and children, who were not counted in Republican censuses, but instead caused by an increase in the numbers of male citizens. There is no evidence or reason to suspect that Augustus ordered women and children to be counted in the census when it had not been done before. Instead, the most logical explanation is an increase in the number of citizens by means of birth and enfranchisement.

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