Legionaries Living in Lutetia:

A Study on the Socioeconomic Effects of the Roman Army during the Principate

Brian Wagner

History Honors Thesis
Special thanks to:

Professor Josiah Osgood, for all his inspiration, patience, and feedback, for without him this project would never have been possible.

Professor Howard Spendelow, for his guidance, continued attention to detail, and consummate professionalism in his last year of service to the history honors seminar.

My friends and family, who put up with me talking about Rome for the better part of a year, and who nodded and smiled whenever I tried to tell them that, yes, it really is interesting, I swear.

(Front page: legionaries standing in formation while on campaign during the Second Dacian War of 105 CE. Scene 98, taken from Trajan’s Column - http://www.trajans-column.org/)
Table of Contents

Introduction 3
Chapter 1: Background 7
Chapter 2: Structure of the Roman Army 18
Chapter 3: Consumption and Production in the Roman Army 57
Chapter 4: Economic and Social Effects of the Army 89
Conclusion 109
Glossary 112
Bibliography 117
Introduction:

During the reign of Augustus, the Roman military fielded approximately 400,000 soldiers, an impressive figure in both size and scope. Supplying and equipping such a massive force involved a logistical network on an unprecedented scale. These professional soldiers were stationed in every corner of the empire for decades at a time, serving as the defensive bastion against the “barbarians” beyond the frontiers. Establishing permanent bases and forts, they became integral parts of the local economy through trade, intermarriage, and the building of infrastructure. How much of an impact did they actually have? What institutions existed to maintain these outposts? Significant literature exists on the Roman economy and its military, but few sources bring these topics together in a way that discusses their relation to one another. The goal of this paper is to analyze the distinct socio-economic relations between Rome’s soldiers and civilians.

This analysis will concern itself only with the period of 27 BCE to 284 CE, commonly known as the Principate. Other names for the period include Pax Romana (Roman Peace) or Pax Augusta (Peace of Augustus) because it coincided with the start of Augustus’ reign. The subsequent third and fourth centuries of the Roman Empire saw tremendous changes in the Roman army, the taxation, and the organizational structure of Rome itself. After the Crisis of the Third century, the Roman Empire was thrown into a series of inexorable changes that altered the structure of Rome forever. The legions began to be diluted with non-professional natives and supplemented by mercenary units of questionable quality and loyalty. As a result, analysis of this period would constitute an entirely separate study.

Why analyze the Roman army of the Principate? Augustus’ reformation of the military into a professional force, capable of immense discipline and destructive power, represents a
turning point in the history of Rome.\textsuperscript{1} Analyzing the Roman Army under the Principate is the best starting point for several reasons. First, the stability of the Army itself was vastly different during the Principate than in the preceding Republican period. The Republican period army is characterized by periods of inactivity and relatively low strength interspersed with massive levies, which increased troop populations by large amounts during times of crisis.\textsuperscript{2} Conversely, under Augustus, the military adopted a much stronger structural integrity that was persistent and fixed within the Empire. Second, the reforms of Augustus and later emperors codified the Army in such a way that the military was transformed from a drafted force into the professional, generation-spanning legions that represent the stereotypical “Roman Legionary” imagined today. Finally, because of the professionalism, standardization, logistical support, and extensive economic efforts committed to the legions, they became integral to the local economies that they occupied. It was common for a legion to occupy a frontier region for thirty or more years, in which time its legionaries would retire and spread their culture and coinage into the local economy. Concomitantly, they became a part of the larger organization of the Empire because of their role in security and their remarkable ability to bring Roman Imperium to the far-flung provinces they occupied.

The Imperial Roman Army was proportionally quite small compared to the population that it protected; most estimates conclude that it constituted less than 1 percent of the total population of the Empire. However, despite their small population, the legionaries played a massive role in every aspect of Imperial life. In particular, modern analysis of the size, nature, and scale of the Roman economy has afforded the legions an increasingly larger role in the economy of the Empire. The Roman army was more than just a reflection of the economy and

\textsuperscript{1} Phang (2008) 37-72 in “Combat Training and Discipline” elucidates on the often-unchecked aggression of legionaries.
\textsuperscript{2} Erdkamp (2002) 1-7 discusses the Republican Army as a disruption to economic stability.
society. Rather, it was an economic system in itself, forming an integral part of the fabric of the Roman Empire. Control and management of the legions became, in the words of Tacitus, “the secrets of ruling” (Ann. 1.6) and the history of the legions and the Empire were intimately tied together.

The professional military activities of these legionaries and auxiliaries would transform the Mediterranean economy in several ways. The first and most obvious example is through domestic security. Because the legions protected the frontier provinces, the peace that they provided allowed local economies to flourish under their watch. These provinces also received an economic boost by providing the legions’ supplies, which served as a secondary market for goods produced in the region. Additionally, these garrisoned forces possessed special units that acted as police or agents of the provincial governor in times of peace, aiding in the repression of brigands and pirates.

It would be more accurate to say that the economy and infrastructure of the Roman Empire existed to maintain the Roman army, and not the other way around. However, the reality is multifarious. The Roman Empire encompassed a vast array of cultures and peoples, many of whom had been around far longer than the Empire. The very presence of a legion in a province established a complex economic system through the logistical networks and institutions required to supply and maintain it. Feeding, clothing, and administering just one legion was an economic system all its own that stretched across the empire and encompassed every strata of society. Understanding this nuanced development over time is vital in gaining a better understanding of Rome and her people. The role of the legions within the empire, their effect on the economy, and

---

4 Ibid. 208.
the institutions that existed to maintain them all have deep second- and third-order effects that extend outwards into every aspect of Roman society.

The purpose of this thesis will be to explain and evaluate the roles that the Roman army played socially and economically. It will argue that the Roman army’s unique structure and logistical requirements impacted the imperial economy at every level of society by offering a rare opportunity for regular employment, pay, and benefits. The impact of almost 400,000 soldiers receiving a regular cash wage represented a tremendous infusion of capital into local and provincial economies through a variety of civilian outlets. Furthermore, there existed an empire-wide logistical system that was sophisticated and highly complex, paralleled by local civilian markets which formed around garrisons in order to support the military. The social relations between these civilians and soldiers were a part of a greater network of economic exchange, as the Roman military garrisons formed the nexus of economic activity in their regions. The garrisons were employed in a variety of tasks within the local economy and provided security, which in turn facilitated a more productive economy and allowed individual soldiers to contribute to the economy by investing in and purchasing goods in their communities, having families, and providing skilled labor in the form of specialized products and expertise.
Chapter 1: Historical Background

This section will be a brief historical overview of the Roman Empire. To readers already familiar with the story of Rome, you may skip to *The Structure of the Roman Army* where the main discussion and purpose of this work begins. The purpose of this section is to provide readers with a baseline set of knowledge of Rome and its history. This will allow all of the educated non-specialist readers who are unfamiliar with Roman history to engage in the discussion without feeling out of their depth. Moreover, whenever Latin words or phrases are used, they will be used in *italics* with their English translation in parenthesis – *Roma* (“Rome”). A glossary of terms will be included after this chapter for reference at any time so the reader does not feel inundated with jargon.

Roman tradition and history holds that the city was founded by Romulus in 753 BCE. First founded as a monarchy, the Romans expelled their kings and the Roman Republic was formed at the end of the 6th century BCE. A war lasting almost one hundred years with Carthage brought Rome its first overseas conquest, and the centuries that followed saw the fledgling empire hungrily expanding outwards across the Mediterranean. By the 2nd century BCE, Rome was the undisputed master of the Mediterranean world.

The Roman Republic’s great conquests brought it enormous wealth and power, but also sowed the seeds of its downfall. In the words of the historian Lucius Annaeus Florus:

Indeed, I know not whether it would have been better for the Roman people to have been content with Sicily and Africa, or even to have been without these and to have held

---

5 Goldsworthy (2003) 6
6 Rowe (2006) 114
dominion over their own land of Italy, than to increase such greatness that they were ruined by their own strength (Epitome of Roman History I.XLVII. 1-13)\(^7\)

Over the course of the 2\(^{nd}\) and early 1\(^{st}\) centuries, Roman politics started to devolve and violence increasingly became the solution to passing legislation. Two brothers, Tiberius and Gaius Gracchus, attempted to pass land reform acts that would redistribute major aristocratic land holdings to urban poor and the veterans of Rome’s many wars. However, after some early success, they were assassinated by order of the Senate. This established a dangerous precedent in Roman politics. The use of armed force had become the regular arbiter of political differences, and would culminate in the overthrow of the senatorial regime and establishment of the Principate. A secondary effect was the establishment of two distinct movements: the Optimates, who supported the Senate, and the Populares, who opposed it.\(^8\) A high point in the struggle between the two camps would occur in 82 BCE, when a general and statesman named Lucius Cornelius Sulla revived the dictatorship and sealed the fate of the Roman Republic.\(^9\)

**Marius and Sulla: Fathers of the Roman Legion**

In 107 BCE Caius Marius was elected consul and was dispatched to replace the commander of the Republican Army in Numidia. Denied the right to raise conscript new recruits in order to strengthen his forces, Marius was forced to ask for volunteers. In an unprecedented move, he asked for volunteers from the poorest citizens of Rome – men who up until this time did not meet the property requirements to qualify for military service. They responded enthusiastically and proved to be excellent soldiers. Thus, the link between property and service

\(^7\) Lewis and Reinhold (1951 245-251  
\(^8\) Ibid. 251  
\(^9\) Ibid. 269
was forever broken in Rome, and the poor became the bulk of the soldiers in the reformed Roman Army.\textsuperscript{10}

The legions became professional under Marius. They were no longer a militia of citizens, but a permanent, professional force. Marius also gave each of the legions a silver eagle to carry as their standard, a staple of the Roman military that would persist for centuries.\textsuperscript{11}

The post-Marian army was stronger in almost every way than its predecessor was. The relationship between the state and its army had fundamentally changed as well. Before, men were granted varying degrees of political clout in relation to the capacity for which they served. In the professional Roman army, the political influence of the soldiers was negligible at best, as the number of poor recruits grew every year.\textsuperscript{12}

Marius’ most influential decision, however, was the passing of legislation that bound the loyalty of soldiers to their commander and not to the Senate, as had been practiced before. Ironically, this would be the downfall of Marius when Sulla used these powers to raise an army and defeat him. This would be the first of many civil wars that would end the Roman Republic.\textsuperscript{13}

Once Marius was defeated, Sulla declared himself dictator in order to pass reforms and restore order and stability to the Republic. His efforts to return the loyalty of soldiers to the state ultimately failed, but he was able to establish laws that limited the military authority of governors in Roman provinces. Supporting Sulla were two men who would become powerful players in the downfall of the Republic, Gnaeus Pompey and Marcus Crassus, founding members

\textsuperscript{10} Goldsworthy (2003) 46-47
\textsuperscript{11} Ibid. 47
\textsuperscript{12} Ibid. 49
\textsuperscript{13} Lewis and Reinhold (1951) 269-271
of the First Triumvirate. To the surprise of his enemies, Sulla relinquished his powers once order was restored.\textsuperscript{14}

**Julius Caesar and the First Triumvirate**

In 61 BCE, the general Julius Caesar had just returned to Rome from his position as governor in the province of *Hispania Ulterior* (“Further Spain”) and designed to be elected consul – the highest elected position of the Roman Republic.\textsuperscript{15} In order to do this, Caesar made an alliance with two of the most powerful men in Rome: Marcus Crassus and Gnaeus Pompey. The alliance was called the First Triumvirate and combined Caesar’s political influence, Pompey’s military might, and Crassus’ wealth. The unofficial alliance was solidified in 59 BCE when Pompey married Caesar’s daughter, Julia. Caesar was elected consul in the same year, and shared the office for the traditional one year with Marcus Bibulus.\textsuperscript{16}

At the conclusion of Caesar’s first consulship, the Roman Senate acted to subvert Caesar’s political machinations and appointed him Master of Rome’s Forests. The position was made up by his enemies in order to occupy him and distance him from political influence. However, the First Triumvirate circumvented this legislation and Caesar was promoted to Roman governor, or proconsul, of Illyricum and Cisalpine Gaul, with Transalpine Gaul to follow shortly after.\textsuperscript{17} As proconsul, Caesar became immune to prosecution under Roman law for ten years. Abusing this power, he would spend the next decade conquering northern Europe illegally, for he did not have the explicit permission of the Senate as per the reforms of Sulla.\textsuperscript{18}

\textsuperscript{14} Lewis and Reinhold (1951 269-271
\textsuperscript{15} Ibid. 277
\textsuperscript{16} Rowe (2006) 114-116
\textsuperscript{17} France and Southern Germany.
\textsuperscript{18} Lewis and Reinhold (1951) 277-278
In 54 BCE, Julia died and the family connection between Pompey and Caesar was severed. Then in 53 BCE, Crassus was killed by Parthians while on an ill-fated military expedition, and the Triumvirate’s already tenuous alliance was dissolved. On March 1, 49 BCE, Caesar’s proconsular immunity was set to expire at which point he would be tried for illegal use of military force. To avoid this, he needed to be elected consul once again. However, on December 1, 50 BCE, the Senate passed a resolution ordering Caesar and Pompey to resign their military commands by March 1, 49 BCE. A second resolution was pushed to a vote shortly after, which declared that Caesar would be a public enemy of the state if he did not comply.

In Caesar’s defense, two young senators named Mark Antony and Quintus Cassius helped to veto the resolution. On January 7, 49 BCE, the Senate responded by declaring martial law and appointing Pompey as the commander of the force to stop Caesar. Antony and Cassius fled the city and on January 10, 49 BCE, Caesar rallied his veteran legion, the XIII Gemina, and led them across the Rubicon River into Italy, starting the First Roman Civil War.\(^{19}\)

Pompey, having secured a position as consul, stood on the side of the Senate. Caesar, now a military hero for his conquests in Gaul, was backed by Mark Antony, Quintus Cassius, and the overwhelming favor of the citizens of Rome.\(^{20}\) Pompey’s forces, not knowing Caesar only had one legion, fled to Greece with most of the Senate as the Caesarians advanced south into Italy. On August 9, 48 BCE Caesar decisively defeated Pompey, who was assassinated on September 28 of the same year while in hiding at Alexandria. The Roman Civil War continued for three years after Pompey’s death, eventually ending on March 17, 45 BCE at the Battle of Munda.\(^{21}\)

\(^{19}\) Lewis and Reinhold (1951) 279

\(^{20}\) Ibid. 286

\(^{21}\) Ibid. 285-287
A year later on March 14, 44 BCE, Julius Caesar was assassinated by a group of senators led by Decimus Brutus after having just been named “Dictator for Life.” He had no children and left a sole heir – his great-nephew Gaius Octavius.\footnote{Rowe (2006) 114}

**Octavian – The First Emperor of Rome**

Born on September 23, 63 BCE, Octavius was just nineteen years old when his great-uncle Julius Caesar was assassinated on the Senate floor. Before he died, however, Julius Caesar had adopted the young Octavius as his son and only heir, allowing Octavius to inherit Caesar’s property and, most importantly, his army.\footnote{Ibid. 114-115} Heretofore, “Octavius” shall be referred to as “Octavian” as that is the agreed upon name for the man who changed it so many times over the course of his lifetime.

Upon hearing of his adopted father’s death, Octavian quickly travelled to Brundisium (Southern Italy) where Caesar’s soldiers had been preparing for a campaign into Parthia (Middle East). There was an enormous amount of money stored there, representing a large part of the total profit from Caesar’s successful campaigns in Gaul the decade before. Octavian began a political campaign to rally support for himself as the heir to Caesar, who was popular among the citizens of Rome. Working with Mark Antony, the pair drove out the senators who had conspired against Caesar and began building their power and political influence.\footnote{Lewis and Reinhold (1951) 297-305}

Secretly, Octavian began recruiting the former legionaries of Caesar and amassed a large private army in Italy. Antony, desperate to retain political influence, attempted to pass a series of laws that would grant him control of Cisalpine Gaul. Instead, the Senate granted control of the
provinces to Decimus Brutus. Additionally, Antony sensed the danger of Octavian’s skyrocketing influence and fled to Cisalpine Gaul to consolidate his forces.\textsuperscript{25}

At the urging of a senator and famous orator named Marcus Tullius Cicero, Octavian was inducted as a senator on January 1, 43 BCE. The Senate also granted him \textit{propraetor imperium} (“commanding power”), which made his command of troops legal, and gave him the ability to weigh his vote against the elected consuls. The Senate had no standing army, and hoped that Octavian would use his private force in place of theirs. Antony, sensing he was losing control of Octavian and Rome, turned against Decimus Brutus, in Cisalpine Gaul.\textsuperscript{26}

The Senate passed a series of resolutions ordering Antony to cease his military operations against Brutus, but its already impotent legal power made no difference to Antony, who continued his attack. Octavian was dispatched with his army alongside the consuls Aulus Hirtius and Gaius Pansa in order to stop Antony. Octavian’s army linked up with Decimus Brutus and defeated Antony in two battles during April of 43 BCE. However, both Hirtius and Pansa were killed, leaving the consulship vacant.\textsuperscript{27}

The Senate attempted to grant the consulship to Brutus, but was blocked by Octavian, who retained sole control of the legions. Instead, a delegation of centurions, senior enlisted legionaries, was dispatched to Rome on Octavian’s behalf to negotiate for Octavian’s immediate appointment to the consulship. When this was denied, Octavian entered Rome with his eight legions and appointed himself to the position alongside a man named Quintus Pedus.\textsuperscript{28}

In October of 43 BCE, Antony, Octavian, and a man named Marcus Lepidus (a leading member of the Caesarians during the last civil war) formed the Second Triumvirate after a long

\textsuperscript{25} Lewis and Reinhold (1951) 306-307
\textsuperscript{26} \textit{Ibid.} 297-300
\textsuperscript{27} Rowe (2006) 114-116
\textsuperscript{28} \textit{Ibid.} 114-116
series of negotiations. Understanding that they would be more powerful acting together despite their past conflicts, the junta moved against their common enemies, who had conspired against Julius Caesar. Octavian then established a series of proscriptions in which hundreds of senators and thousands of Equites (the second noble class of Rome) were killed or exiled for their involvement in the Roman Civil War and the death of Julius Caesar. It was a chaotic and awful time to be in Rome, as lists of “public enemies” were nailed up around the city and a reward was given to any person bearing the head of someone named in the proscriptions.29

The Emergence of Agrippa and the Final Blow to the Republic

On January 1, 42 BCE, the Senate posthumously deified Julius Caesar. The Second Triumvirate then acted to destroy Brutus, who had fled to Greece after the alliance between Antony, Octavian, and Lepidus was made official. Antony led twenty-eight legions across the Adriatic against Brutus and destroyed his army at the battle of Phillipi on October 24, 42 BCE.30

Antony openly mocked Octavian for not having participated at the battle and for ceding control of his army to Marcus Vispanius Agrippa. Agrippa had emerged seemingly out of nowhere from an obscure family to become Augustus’ second-in-command. Octavian and Agrippa had been educated together and grown up with one another.31 However, Agrippa quickly proved himself as a brilliant general and administrator despite his somewhat ignominious origins. Without him, much of Augustus’ accomplishments would have been impossible.32

Unsurprisingly, despite a tenuous agreement that divided the lands of Rome between the Second Triumvirate, civil war broke out again. Octavian and Agrippa would lead their forces

29 Lewis and Reinhold (1951) 300-304. Appian estimates that 300 Senators and 2,000 equites were killed, but other Roman historians provide very different numbers. It is likely that because of the chaotic nature of the proscriptions, many more people were killed than originally intended.
30 Lewis and Reinhold (1951) 300-307
31 Nicolaus of Damascus, Life of Augustus 7
32 Rowe (2006) 116-1125
against Antony and Lepidus, ultimately destroying both of them completely. Antony would ally with Cleopatra, queen of Egypt, but it did not help him. Augustus and Agrippa defeated every one of their rivals systematically over the course of five years, starting with Lepidus on September 3, 36 BCE, and finally ending with Antony at the battle of Actium on September 3rd, 31 BCE.  

Once young Octavian achieved sole power, there was no question that he would inevitably dissolve the Republic. It had long been a dying and vestigial institution in desperate need of reform, and Octavian was finally in a position to do just that. However, after decades of civil war, the people of Rome were not ready to accept him as their sole leader. So, Octavian returned to Rome with immensely enhanced powers and began a series of reforms to return the beleaguered state to an era of peace.

He made a show to return full power to the Senate, and relinquished control of his armies and territories. However, as consul he still controlled legislation, and the military was his by loyalty, if not officially. In 27 BCE, Octavian and the Senate reached a settlement that would grant Octavian significant powers and started his career as emperor. He was given the name “Augustus,” which roughly means “venerable one.” Augustus was then granted the power to declare war and make treaties, appoint equestrians to military commands, and to appoint tax collectors. He also instituted a series of reforms that would stabilize and strengthen what was now the Roman Empire.

---

33 Rowe (2006) 115
34 Ibid. 114-126
35 Ibid. 114-126
He began by reforming domestic affairs and private life, annulling the myriad acts passed during the civil wars that were contrary to Roman values and customs, restoring popular elections, and completing the first census taken of the Roman people in forty-two years.36

With the pacification of Egypt following Antony’s defeat, Roman domination of the Mediterranean was complete. Augustus pushed the borders of the Empire outward, expanding Roman dominion into the Iberian Peninsula, the Alps, and beyond the Rhine and the Danube. In 27 BCE, his settlement with the Senate divided the lands of Rome into Senatorial and Imperial provinces. Octavian would control the Imperial provinces directly, and the Senate would be allowed to govern in the rest. There was little difference between the two; the Senate and Octavian (not yet appointed emperor) issued orders to both and revenues from both went toward the same treasury.37

A monarchy was slowly but surely beginning to take shape. Augustus’ position was partially defined by the powers bestowed unto him by the Senate, but that authority would evolve. Augustus began funding many public works projects, including building roads in Italy and the construction of temples around Rome. The common people urged him to take more power, and with their support, he and the Senate reached another settlement in 23 BCE. Under the agreement, Augustus renounced his consulship in order to allow new senators to be influential and give room for the Senate to operate. However, he retained what was called “tribunician power” that gave him the same authority over consul and Senate decisions. Next, he was granted “proconsular imperium” over the entirety of the Empire and the city of Rome, allowing him to make decisions and pass legislation in both Senatorial and Imperial provinces. When the agreement was signed, Augustus became the Princeps, which roughly means “first

---

36 Rowe (2006) 115
37 Ibid. 116
among equals,” an appropriate term as he had gradually assumed control over the entire Roman government, and was now finally in charge of the Senate, the people of Rome, and its legions. Augustus’ successors would also retain the title of Princeps, and their dynasty would be called the Principate.\textsuperscript{38}

**The Principate and the Imperial Army**

Augustus’ regime was still founded on the military. During Augustus’ reign, there were still wars to be fought. The Pannonian Revolt in 6 CE and the Disaster at Teutoburg Forest of Germany in 9 CE destroyed three legions, and caused the Roman army’s focus to shift. The Roman military shifted its focus toward defense instead of expansion, and postured itself along the frontiers of the Empire to defend its borders. The legions, originally comprised of citizen-soldiers mobilized annually, completed their transformation into a professional standing army. The auxiliary allies of Rome, previously native peoples who had helped Rome during war, were now officially made into a second corps of the Roman military. Technically, the legions and auxiliaries served the Roman people, but materially and symbolically by oath they belonged to the *Princeps*.

Augustus died in 14 CE after reigning for forty years. His successor, Tiberius, would retain the same powers and authority, as would all of the Roman emperors during the Principate until its replacement by the Dominate in 284 CE. The history of the Roman Empire is endlessly fascinating, but the exact details of each emperor’s reforms, mistakes, and wars are far outside the scope of this paper. Further, the nature of this discussion is largely independent of the activities of the emperors, unless stated otherwise.

\textsuperscript{38} Rowe (2006) 117-125
Chapter 2: The Structure of the Roman Army

The Imperial army was not created from scratch, and it drew many of its traditions and practices from the Republican army that preceded it. However, Augustus imparted many reforms that drastically altered the organization and structure of the new army. The most important change was the establishment of a term of service. This was originally set at sixteen years, with an additional four years as an evocatus ("reservist"). This was later increased to twenty years active, with another five years in reserve.39 Once the civil wars of the Roman Republic had ended, Augustus consolidated his forces and reduced their number by half to twenty-five standing legions. This number remained largely static during the Principate, increasing to thirty-three after the first century (Tac. Annals 4.5).40 The rest of the veterans of the civil wars were retired across the empire in approximately twenty-eight colonies (Res Gestae 28). Augustus’ reforms and the colonization of these veterans will be discussed in separate sections.

Every legion was given a number upon its founding and would adopt a title, usually fashioned from their province of origin (e.g. XXII Deiotariana, XXX Ulpi Victrix). This naming convention, while useful at differentiating units, had no overarching system or structure. It merely reflected the culture and personality of the legion, rather than being part of a more sophisticated bureaucratic organizational system. When Augustus was consolidating the legions following the civil wars, the highest “numbered” unit was XXII Deiotariana, named after the Galatian king who founded it. Three legions were known as Gemina (twin), which suggested

40 Augustus increased the number briefly to twenty-eight but three were destroyed in the disaster of AD 9 when three legions were wiped out under Varus in Teutoberg forest. The number of legions would fluctuate between 25 and 33 for the next three centuries.
they were an amalgamation of two or more other units, who most likely had suffered enough losses in combat that they were severely understrength. 41

Some of the units from the Republic had developed distinct identities and titles before the reforms of Augustus, but it did not become institutionalized until the Principate. This development of unit identity and culture is crucial for the development of the Imperial Roman Army, as it now meant that soldiers would pass along traditions and practices through generations. This resulted in greater cohesion and deeper connection to whatever provinces they were stationed in. Because most legions would remain in a province for decades at a time, this culture and identity would become a significant factor influencing the local economy and people there. Legionaries and their allies were proud of their units, and peculiarities of dress, fighting style, and even eating preference made each legion unique. 42 This is significant as not only would the legion influence the people around it, but also the economy would have to adapt to meet its needs, sometimes importing goods from far-flung parts of the empire to accommodate them. The unit and region a legionary was stationed in defined his career and most soldiers’ epitaphs described the unit they served with, implying it was a defining part of his life. 43

Included on the following page is a map showing the different legionary units that were deployed across the Roman Empire.

41 Goldsworthy (2003) 50. Unit names varied from simple geographic designations to honorific titles bestowed by commanders or emperors (this would be like naming the Fourth Infantry Division at Fort Carson, CO today the “IV Coloradans”). Some units had interesting peculiarities, such as the I Italica, where every man was supposedly 6 feet or taller, or the XXI Rapax, so named for their “greed” for victory.
42 Ibid. (2003) 50
43 Southern (2006 ) 149-168 discusses unit pride and the variety of cultures in addition to the various dietary and equipment needs.
Here we see the dispersion of Roman military units across Europe, Asia, and Africa.

Throughout this section, we will be examining statues, funerary monuments, and epigraphical records of different soldiers to get an idea of who they were and what they did. To introduce the reader to this concept, we will begin with a simple examination of an exemplary Roman legionary from the second-century CE. The terms and phrases used in this section will be explained in detail later in this chapter. It is important to understand the structure and functions of the Roman army, as in later sections the specific positions will be an important part of our analysis. Understanding the nuances of rank and authority in the Roman military are essential in a solid examination of how these soldiers interacted with civilians and their peers.
Petronius Fortunatus’ tombstone was located at Lambaesis in North Africa. He voluntarily enlisted at an early age in the Legio I Italica of the Lower Moesia province. Fortunatus spent his first four years as libararius, tessarius, optio, and a signifier (“scribe, officer of the watch, adjutant, standard bearer” respectively) before he was promoted to centurion by a vote of his comrades. The next forty-six years of Fortunatus’ life were spent in service to the legiones VI Ferrata, I Minvervia, X Gemina, II Augusta, III Augusta, III Gallica, XXX Ulpia, VI Victix, III Cyrenaica, XV Apollinaris, II Parthica, and I Aduitrix. During his career he was awarded the mural crown, given to the first soldier over an enemy wall during an attack as well as several other commendations for exceptional service. He died at the age of 80 after a remarkable career. His tombstone also mentions a son who died at thirty-five after a six year career as a centurion in the Legiones XXII Primigenia and II Augusta.

Fortunatus’ tombstone tells us many things. First, Roman soldiers were not just regionally recruited levy soldiers who would never leave the area around their home. Instead they travelled frequently and enjoyed a variety of assignments. Second, they took exceptional pride in their service – Fortunatus is not alone in having his career displayed on his tombstone, most Roman veterans have dedications to their careers on their tombstones. Analysis of soldiers like Fortunatus and their careers gives us a unique insight into the daily lives of the members of the Roman army. Who were they? What did they do when they were not fighting? Answering these questions and more provide perspective in discovering the role of the Roman soldier in his community and economy.

44 Modern day Algeria
45 Modern day Serbia
46 Goldsworthy (2004) 73
47 Hope (2003) 79-97
Like Fortunatus, the soldiers of the Imperial Roman army were mostly volunteers. Legally, all Roman citizens were obliged to serve in the military, but conscription was rare and extremely unpopular. Augustus, for example, only held a draft (dilectus) twice. This was in order to bolster the military following two disasters in CE 6 in Pannonia and CE 9 in Germany.\(^{48}\) The lack of dilectus is notable as it tells us that the Roman army was never lacking volunteers in its history, indicating that a life of service was both desirable and sought-after by citizens.

Every male citizen of approximately eighteen years could join the Roman army. Traditionally, every man “of age”\(^ {49}\) was required to submit his name to the dilectus in the event of a personnel shortage in the army. Again, these drafts were relatively rare as there seems to have been a steady supply of volunteers throughout the first and second centuries.\(^ {50}\)

Service in the Roman army attracted citizens from the poorer sections of society due to its relatively large benefits and stability. Soldiers had certain advantages under Roman law, specifically the unique right to create a will even if their father was still alive. Normally, the father legally owned all property of his children.\(^ {51}\) Less specifically, the army assured a man of food, clothing, medical treatment, and a steady wage – all things that a poor urban youth may have struggled to obtain otherwise. Approximately two-thirds of soldiers enlisted between the ages of seventeen and twenty, the remainders were under the age of twenty-five, although it was not unheard of for a soldier to be thirty or older.\(^ {52}\)

\(^{48}\) Goldsworthy (2003) 76. The Pannonian crisis in AD 6 required a large influx of soldiers to put down an Illyrian revolt. The Battle of Teutoberg forest in AD 9 resulted in the loss of three entire legions and is where the famous quote “Varus, give me back my legions!” comes from. Varus was the legate in charge of the forces lost to the Germanic tribes.

\(^{49}\) Just what age this was is difficult to determine. Most likely the recruiter simple “eye-balled” it as most citizens did not have birth records.

\(^{50}\) Goldsworthy (2003) 76

\(^{51}\) Goldsworthy (2003) 77

\(^{52}\) Scheidel (2007) 417-435
The soldier’s salary was not especially high. In fact, an unskilled laborer may well have been able to earn as much, especially in the city.\textsuperscript{53} However, such work was never guaranteed for long, let alone a lifetime like the army offered. The soldiers’ pay will be discussed at length in \textit{Monetization, Pay, and the Position of Roman Soldiers in the Economy}.

How the Romans recruited their soldiers is largely unknown. This is most likely because there simply was no established protocol or doctrine for how to find fresh recruits. In times of extreme necessity, such as the raising of a new legion, the would-be commander would hold an open enlistment at whatever local population center was available. Most of the time, a low ranking officer or centurion would probably have been assigned the task of finding replacements for a unit. This would have been handled as one of the many tasks for the local government. How these recruits were obtained was up to his discretion. Anecdotal evidence suggests this could range anywhere from press-ganging to door-to-door recruitment.\textsuperscript{54}

Once the recruits were rounded up, they entered the first phase of training, \textit{probatio} (“trial”), where they were physically and medically assessed for service. If they passed they were given a lead \textit{signaculum} (“seal”) to wear around their neck with their named etched on it. At the same time they would swear their military oath of service (\textit{sacramentum}) where they swore loyalty to the emperor. Then they received their first payment of three gold \textit{aurei} and were transported to their new units. However, much of this first payment would be spent buying supplies from the local economy on their journey to their unit, demonstrating that soldiers’ interactions with civilians began almost as soon as their service.\textsuperscript{55}

Upon arrival to their new unit, recruits would have undergone a period of martial and physical training in order to bring them up to the standard set by the legion commander.

\textsuperscript{53} Goldsworthy (2003) 78
\textsuperscript{54} Roth (1998) 1-24
\textsuperscript{55} Goldsworthy (2003) 78. These “seals” undoubtedly served the same function as modern day dog-tags.
Anecdotally, a soldier was expected to be able to march at a rate of twenty-four Roman miles (about 35.5 kilometers) in 5 hours while carrying a seventy pound pack.\(^{56}\) They were taught how to throw spears (*pilum*), carry shields (*scutum*), and fight with their swords (*gladius*). All of their training items would have been double the weight of their regular equipment, in order to develop the new recruits’ muscles. Finally, the recruits were taught how to fight in close-order drill with their uniquely short swords.\(^{57}\) A legion’s training site would have resembled a modern boot camp of today, with senior veterans instructing the new recruits on the proper fighting techniques and officers yelling orders to teach discipline. Once the recruits were trained to a satisfactory level, they were integrated in the legion and were treated as normal soldiers.

A typical legion was comprised of approximately 5,500 men. This number varied during the time of the Principate and it is extremely unlikely that a legion would have actually had this exact number of soldiers at any given time. Realistically, a combat effective legion would have been comprised of 4,800 to 5,300 legionaries.\(^{58}\) The legion was further divided into nine “cohorts” of approximately 480 men each and a tenth of about 800. A cohort was comprised of six “centuries” of 80 men each and was subdivided into approximately eight *contubernii* (“tent units”) of six to ten men each. The tenth cohort had four to six double strength centuries of 160 men. Finally, a small force of 120 cavalrymen was permanently attached to each legion.

The first cohort of every legion was oversized at 800 men and contained only five centuries. This cohort was comprised mainly of specialists and veteran soldiers. The first century

---

\(^{56}\) Stout (1921) 423-431. This pace is fairly consistent with the modern military standards of 16-20 minutes a mile carrying a similar weight. The Romans most likely placed a much greater emphasis, as infantrymen today are only expected to walk 12 miles for their physical test.

\(^{57}\) Stout (1921) 423-431. Studies in modern times have concluded that the Romans were remarkably efficient at killing. Recruits were taught to stab underhand into their enemies’ midsections, instead of slashing as is instinctual when holding a weapon. Even a 2-inch deep stab wound to the abdomen can be almost immediately fatal, whereas slashes across the majority of the body, while painful, are easy to treat and recover from.

\(^{58}\) This is based on the assumption that ~10% of soldiers would be unfit for duty at any given moment. See: *Marriage, families, and survival in the Roman imperial army: demographic aspects* (2009) by Walter Scheidel for an assessment of combat-effectiveness of a legion.
of the first cohort was the most elite unit in the legion and was led by the *primus pilus* ("first spear"), the most senior cohort commander of the legion.

A legion was always comprised of Roman citizens recruited from every part of the empire. As already stated, they were required to serve for approximately twenty years and because of this, service in the legion was usually life-long. The legionaries would train daily, usually practicing drill, camp construction, or hand-to-hand combat. However, training was never fully institutionalized and so it was usually at the discretion of the commander as to what sort of training the legion placed its emphasis.\(^{59}\) Nonetheless, the fact that the legions trained daily and stayed in service for decades at a time placed them far above the levied army of the Roman Republic, which only raised soldiers in times of war.\(^{60}\)

Supplementing the legions was the *auxilia* corps (literally “helpers”). While certainly less prestigious than the legions, the auxiliaries served no less an important of a role. Roughly speaking, there was usually the same number of auxiliary soldiers as legionaries, although records for auxiliaries were not as detailed so it is difficult to get an exact measure.\(^{61}\) Auxiliary cohorts were either 500 strong (*quingenaria*) or, after 70 CE, about 1000 strong (*milliaria*). They were further divided into centuries, numbering about 80 soldiers. Like the legions, these cohorts were overseen by centurions and low-ranking equestrians.\(^{62}\) There were three types of auxiliary unit – infantry, cavalry, and mixed, often changing role in order to fit a given campaign or region’s needs. In addition, the *auxilia* provided the majority of the Roman army’s cavalry and

\(^{61}\) La Bohec (1989) 25. Additionally, I have only found one piece of evidence that provides an exact number of auxiliary troops in a unit. It is from the Tungrian Strength Report (Vindolanda Inventory No. 88.841), which the site claims is the only report of its kind to have been discovered. The Tungrians numbered 752, which is in line with estimations of troop sized being between 800-1000.  
ranged weapon capabilities. They “supported” the legions more by providing extra manpower than novel types of fighting or weapons, however.

Under Augustus, the role of the *auxilia* became much more structured and they evolved into a more regular and professional force. The most significant change was the official decision to structure *auxilia* into units of cohort strength, rather than legion-sized units as practiced in the Roman Republic. This was because it was easier to shift around smaller units to supplement legions as the need arose. 63 Further, it was much cheaper to maintain the smaller units and they were commonly used as frontier scouts and police forces, as their soldiers always came from the province they served in.

A tombstone of an auxiliary in the *Cohors I Ituraeorum* named Morinus shows him holding a bow and quiver of arrows. He died at the age of fifty after sixteen years of service. Because Morinus was thirty-four when he enlisted, confirming that service was open to a wide range of ages and not just an option for youth. Further, it shows that service was desirable enough that it was a viable career opportunity later in life. Morinus’ display of his bow and arrows also tells us that it was a point of pride to possess this special skill. 64

Auxiliaries were always freeborn non-citizens (*peregrini*) who, like the legionaries, were required to serve a twenty-year enlistment. 65 Upon discharge, every auxiliary received citizenship that came in the form of a *diploma* that was a bronze copy of the document registering their citizenship in Rome. 66

---

63 Goldsworthy (2003) 56
64 Ibid. 180
65 Fields (2009) 13
66 Goldsworthy (2003) 114
Tacitus paints an excellent picture of how these units differed from the legions, as well as how they were perceived in his description of a parade into Rome in 69CE:

In front advanced the eagles from four legions, on the sides the standards belonging to the detachments of four other legions followed by the ensigns of twelve wings of cavalry; after the lines of infantry came the cavalry, then thirty-four cohorts of auxiliary infantry recognizable by their national names or their type of weapons” (Histories II.89.2).

Soldiers took considerable pride in their careers. A column found at Lambaesis has a transcript of a speech given by Emperor Hadrian to the soldiers of the Legio III Augusta, where the Emperor praises the III Augusta’s commitment to excellence and service. The column was located in the center of the parade ground outside of the legionary’s fortress, and oriented so that anyone walking from the fortress would see the dedication.67 This shows that unit’s took pride in their work and went to considerable lengths to demonstrate this.

The following subsections will be dedicated to discussing the responsibilities, career paths, and social dynamics of the various ranks in the Roman army. For any reader with a military background, or knowledge of modern military structure, it would be prudent to approach this section with an open mind towards military hierarchy and ranks. While most modern western militaries derive large portions of their structure and culture from the Roman army, they are not comparable insofar as Roman ranks cannot even be roughly matched to those used in a typical United States Army unit today. This is because of the Roman army’s deep social integration and exceptional transitory nature of the higher ranks due to the higher ranks serving as political offices, rather than military posts.

---

67 www.livius.org/source-about/the-lambaesis-inscription
Military appointments were rarely, if ever, based on merit and instead were viewed as political offices or merely “broadening assignments” for young senators with little worldly expertise. Our centurion Fortunatus from earlier is not even an exception to this rule, as his son received a direct commission to centurion – unlike his father who worked for years to obtain the same. These positions are well understood due to the significant body of letters, biographies, and journals that survive from the nobility who served. Conversely, the vast majority of evidence for understanding careers and ranks of the average soldier is found in the epigraphic and funerary record, as these ordinary soldiers left little to no footprint in the literary record.

**Senatorial and Equestrian Officers**

The command hierarchy of the Roman army unsurprisingly reflected the structure of Roman society. Citizens of the senatorial class held the highest ranks, citizens of the equestrian class filled lower ranking officer positions, and the bulk of the military was filled with regular citizens of no social rank.\(^{68}\) Citizens of the senatorial class served as proconsuls in provinces, acting as governors and generals of the legions stationed there. In imperial provinces, legates were appointed to command individual legions under the authority of the Emperor.\(^{69}\)

The provincial commanders of the senatorial provinces, or the proconsular legates, oversaw entire regions with multiple legions under them, which were in turn commanded by a *legatus legionis* (“ legionary legate”). The map included below shows how the provinces of the

---

\(^{68}\) Social rank in the Roman world was determined by one’s property value, acquiring the adequate capital would allow one to “advance” in rank. While it was certainly a cultural/heredity based institution, these were in theory economic distinctions.

\(^{69}\) Phang (2008) 15
Roman Empire were divided between senatorial and imperial territories.

While the foundation of the Principate robbed the Roman Senate of any real freedom or autonomy, senators as individuals continued to play an integral part of the Empire well into the 3rd century. Appointment to a military command largely depended on patronage and political influence. This was especially true of strategically important legions, for no emperor wanted their military run by potential rivals. There were two types of legion commanders, legates and proconsuls. The Senate elected proconsuls and the emperor appointed legates. However, the emperor’s approval was required to be appointed to either of these positions, so the distinction is largely irrelevant in the context of the military.

---

70 Goldsworthy (2003) 60
Legionary legates were always of the senatorial class and usually in their early thirties. The limited number of provinces and importance of such a position meant that the majority of senators would never achieve such a high rank. The full title of a legate (“envoy of the emperor, acting praetor”) and usually required a term of service around three years. Only the province of Egypt contained a legionary garrison that was not commanded by a member of the Senate.

In Egypt, the local legion command was an equestrian position. The province of Egypt rarely faced external threats, but was a source of regular unrest. As a result, two legions were stationed in and around Alexandria in order to quell any potential uprisings. Because of Egypt’s massive agricultural surplus, it provided a high portion of the grain consumed by Italy and the city of Rome. Many of the documents we will examine in later sections originate in Egypt, as the military had a vested interest in the economic activities there.

An equestrian prefect was appointed to administer this province on the personal behalf of the emperor to ensure that such a strategically and economically valuable area would not fall into rebellion or taken over by an overly ambitious senator. Augustus even forbade senators from travelling to Egypt unless they had his express permission. Augustus most likely made this decision with the expectation that a member of the equestrian class would have been detached from the politics of the Senate, and thus more likely to serve for the empire and not themselves.

Under the legate was a *tribunus laticlavius* (“broad-striped tribune”), usually a son or close relative of a senator. Tribunes were usually in their late teens or early twenties and it was rare for them to have prior military experience. The broad-striped tribunes would serve until they came of age and could enter the Senate at twenty-five. A minimum term of service was

---

71 Goldsworthy (2003) 62  
72 Ibid. 65  
73 Ibid. 50
placed at one year. A minority served for longer than this, but the majority moved onto provincial positions of greater political prestige.

Additionally, there were five tribuni angusticlavi (‘narrow-striped tribunes’) who were of the equestrian class and provided administrative and logistical support to the legate in much the same capacity.\textsuperscript{74} It is highly probable that these junior tribunes were assigned to units with family members as commanders, and there is evidence to suggest that provincial governors were able to request specific individuals to serve on these posts.\textsuperscript{75} Because of this, it is reasonable to assume that it would have been “family tradition” for generations of senators to serve in the same legions, a practice facilitated by the nepotistic nature of military appointments.

The gulf between the classes was significant in Roman society, even within the legions. Unlike their senatorial counterparts, the equestrian officers often stayed in the military for much longer. The narrow-striped tribunes usually served in auxiliary units before being promoted into the legion, and from there they were promoted into the cavalry corps.\textsuperscript{76} For the upper strata of Roman society, military service was viewed as merely another milestone in a political career. While there were officers of all types in the legion, it is best to view senatorial and equestrian positions as an entirely separate hierarchy, as there was no mixing of classes or potential for a non-member of the nobility to be promoted. As a result of this division, most of the officers and soldiers who interacted with civilians appear to have been equestrians or below in social standing. Whether this was because the nobility did not want to bother dealing with “less important” citizens, or simply had more important duties to worry about, is impossible to discern and likely varied from individual to individual.

\textsuperscript{74} Fields (2009) 8-9
\textsuperscript{75} Goldsworthy (2003) 60
\textsuperscript{76} Phang (2008) 15.
The Enlisted Ranks – Centurion Positions and Below

There were many ranks below the levels exclusively held by senators or equestrians. For regular non-equestrian or senatorial citizens of the empire, there were several positions of relative prestige that they could hope to achieve. The bulk of the Roman military was comprised of these dedicated individuals and ultimately the day-to-day operations of the legions were their responsibility.

The most important and prestigious position an ordinary citizen could hope to achieve was that of a centurion, of whom there were sixty of in each legion. Legionaries who served for a decade or more were often promoted to the rank of centurion (equestrians could also serve as centurions, although through direct appointment). Once obtaining the rank of centurion, a legionary could hope to be promoted again within this elite cadre to primus pilus (“first-spear centurion”) at which point he was given equestrian status in Roman society upon discharge. From there, it was possible to reach the position of praefectus castorum (“camp prefect”), the third-in-command of the legion, which was the highest position possible for a non-member of the senatorial or equestrian class to achieve (just how often this happened is unclear, as the evidence is insufficient to make any accurate assumptions). Because of their importance, centurions will be discussed at greater length in a separate section.

Assisting the centurions were the special personnel who made up the administrative and operational staff of a legion. They were divided into two distinct groups: principales and immunes. They were exempt from normal camp duties because of their increased responsibilities. Principales assisted the centurion with administration and the immunes were men excused by virtue of their special skills (i.e. blacksmith, carpenter, medical assistants, etc.).

---

78 Goldsworthy (2003) 68-72
will be discussed extensively in *Consumption and Production* as they were the primary sources of economic production for the Roman military.

The *principales*-class of enlisted men was comprised of three main positions: *Optio*, *signifer*, and *tesserarius*. The *optio* (“chosen man”) was a centurion-in-training who assumed field command if the centurion was killed or incapacitated. *Signifers* were standard bearers in battle who also handled paperwork for their century and oversaw garrison activities for their unit. Incidentally, *signifers* wrote the majority of legionary records that have survived to today. Finally, the *tesserarius* controlled the daily guard rotation and was master of the camp’s sentries.\(^79\)

The tombstone of an *Optio* named Caecilius Avitus displays him carrying his ceremonial *hastile*, which was a symbol of his rank as a low-level officer. He served for fifteen years in the *Legio XX Valeria Victrix* after enlisting at the age of nineteen. The tombstone was erected by his heirs.\(^80\) *Optiones* were especially important for their units as they had the primary responsibility of acquiring supplies. As a result, *optiones* had some of the most substantial relationships with civilians, who often acted as intermediaries in the acquisition of goods. This special relationship between officers and civilian traders will be expanded upon in *Economic Effects*.

---

\(^{79}\) Goldsworthy (2003) 50-70

\(^{80}\) Ibid. 121
The tombstone of the optio Caecilius Avitus. The paint is a modern recreation of what the tombstone would have looked like in the first-century CE.

*Immunes* encompassed a wide range of positions and responsibilities and although they were exempt from regular camp duties, were not afforded any greater authority than regular soldiers. The *decanus* (“tent commander”) was responsible for one of the ten *contubernia* (“tent unit”) in his century and oversaw between six and ten regular soldiers. The *custos armorum* (“guardian of arms”) oversaw the maintenance of the century’s equipment and weapons. The *aquilifer* (“eagle bearer”) was ranked just below centurion and was responsible for carrying the legion’s gilded eagle when marching into battle. This individual was also entrusted with
guarding the legion’s pay chest. The importance of the pay chest is obvious, but carrying the legionary eagle was a responsibility of immense cultural significance as it represented the body and soul of the legion.\textsuperscript{81}

\textit{The tombstone of aquilifer Gnaeus Musius of the Legio XIV Gemina.}\textsuperscript{82} Note the legionary eagle in his right hand.

\textsuperscript{81} Goldsworthy (2003) 50-51
\textsuperscript{82} Image take from Goldsworthy (2003) 96
Centurions – Identity and Importance

Both tactically and administratively, the legions were most effective at the cohort level. Work and construction projects were delegated out at the cohort level of administration, and in battle a cohort was the small unit expected to be able to operate independently of the rest of the legion. Because of this, centurions can be seen as the backbone of the legion and without this unique position, there would have been a drastic decrease in legion effectiveness.

A centurion is better thought of as a grade or type of officer, rather than a specific rank. The centurions of the first cohort, collectively known as primi ordines (first ranks) were of higher status than the other centurions of the legions, but the exact nature of these relationships is unknown. Also unknown is who exactly commanded a cohort, if at all. It could be assumed that the senior-most centurion fulfilled this role but no evidence for such a rank exists.

Also unknown is the system the Romans used to promote centurions. One hypothesis suggests that a centurion worked his way up from hastatus posterior of the tenth century (“rear spear”) up to pilus prior (“front spear”) – the alleged commander of the first cohort. This theory is based on the writings of Vegetius and Caesar, both of whom discuss the idea of moving centurions up through the centuries, with tenth being the lowest and the first the highest. However, it is difficult to imagine how such a system would have worked. Unless this promotion process took an incredibly long time, no centurion would have been in any on post for more than a few months. A more reasonable theory is that cohorts two through ten were held in equal standing and centurions would cycle through century command first, with cohort commands.

---

83 Goldsworthy (2003) 69
84 Ibid. 69
based on centurion seniority. However, no evidence exists to support this. However, whilst we
must admit that we do not fully understand the system, it is clear that one existed.85

There were three routes to becoming a legionary centurion.86 Like with any position in
Rome, connections most likely influenced a man’s promotion more than his ability. Nonetheless,
each of these methods is well attested, but it is impossible to ascertain which method was the
most common:

1. After service in the ranks as a principalis or junior staff officer, usually requiring fifteen to
twenty of service.

2. After or in the course of service in the Praetorian Guard,87 usually after sixteen years.

3. Direct commission from the equestrian ranks. Some equestrians of significant enough
social standing could afford to buy themselves or a family member a position as centurions.

Alternatively, service to an imperial magistrate in a local city could also be rewarded with a
centurion appointment.

Pliny the Younger writes about one soldier whom Pliny took on has a recipient of
patronage. Named Metilius Crispus, Pliny claims to have given him 40,000 sesterces in order to
pursue a career as a centurion. At a time when the average soldier was paid only 1,200 sesterces
a year, this was the equivalent to over a lifetime of service.88 This substantial investment by
Pliny, a civilian, shows that centurions’ position had enough clout that they would be considered
valuable to someone even as important as a senator.

85 Goldsworthy (2003) 70
86 Ibid. 70-71
87 The Praetorian Guard was a unique unit stationed in Italy and directly controlled by the emperor.
88 Pliny 6.3, Goldsworthy (2003) 72. Ironically, Crispus apparently disappeared without a trace and was never heard
from again after receiving the money. Presumably he was either killed shortly after his appointment or simply stole
the money and ran away.
The inscription on Fortunatus' tombstone discussed earlier shows that promotion and direct commission were both equally possible routes to becoming a centurion.89 A second inscription about Caius Octavius Honoratus is recorded on his tombstone at Thuburnica in Africa. From the inscription, we are told that Caius was directly commissioned from the equestrian order for an unknown amount of time.90 No age or time of service is recorded, suggesting that Caius may have survived to be discharged and retired from the army.

What makes centurions distinct from other ranks is the fact that they became equestrians upon retirement. This meant that their sons would be able to pursue an equestrian career, opening up a massive portion of Roman society normally closed to ordinary citizens. This would usually take place over generations, but it was not so rare that it was considered exceptional for an individual to do so.91 A memorial to the Voconius family at the Augusta Emerita colony (now modern day Merida in Spain) makes no explicit mention of a connection to the army, but on the inscription there are depictions of a centurion’s armor harness and military decorations.92 This likely means that a member of this family served as a centurion, something that would have been a substantial point of pride for the Voconius family.

A cenotaph of the centurion Marcus Caelius commemorates his death and service at the battle of Teutoburg forest in 9 CE. The cenotaph was erected by his brother, Publius Caelius, and informs future generations that Marcus’ remains should be brought to the tomb if they are ever found. Flanking Marcus on the inscription are two other soldiers, possibly peers who also died during the battle that Publius also wished to commemorate.93

89 Goldsworthy (2003) 73
90 Ibid. 73
91 Ibid. 73
92 Ibid. 73
93 Hope (2003) 79-97
The centurion Marcus Caelius’ cenotaph – he is in the middle and is flanked by two soldiers.\textsuperscript{94}

A tombstone from Mainz, France, shows a centurion named Publius Flavoleius Cordus of the \textit{Legio XIV Gemina} who served with distinction for twenty-three years. In the depiction of Cordus on the tombstone, he is plainly dressed in a tunic with a sword on his right hip, which indicates he was not a centurion as it was customary for them to wear their sword on their left side. Cordus has a shield on his back, a spear in his right hand, and a scroll in his left. The scroll

\textsuperscript{94} Image taken from Hope (2003) 79-97
tells us he may have held a clerical post – something that was an obvious point of pride for Cordus as it is featured clearly on the inscription.\textsuperscript{95}

\begin{figure}[h]
\centering
\includegraphics[width=0.5\textwidth]{tombstone.png}
\caption{The tombstone of Publius Flavoleius Cordus.\textsuperscript{96}}
\end{figure}

Far less is known about auxiliary centurions, although it could be assumed that they followed much the same path as their legionary counterparts. Most likely they were commissioned directly from whatever local nobility existed, both due to social status and education. At the auxiliary base in Vindolanda, for example, none of the surviving texts were

\textsuperscript{95} Hope (2003) 120
\textsuperscript{96} Image taken from Goldsworthy (2003) 120
written by any soldier below the rank of *principales*, implying a high degree of illiteracy among the lower ranks of auxiliaries.\textsuperscript{97} It is entirely possible promotion could have thus been solely based on one’s ability to read and write.

What is certain is that centurions were extremely important individuals. Some were appointed to administer regions of a province where they were the most senior representatives of Roman rule. For example, there is evidence of at least one *primus pilus* that was sent as the Roman ambassador to Parthia.\textsuperscript{98} Such duties, as well as the routine administration of their centuries and cohorts, meant that centurions almost certainly possessed a high degree of literacy and numeracy. Because of this, centurions would have undoubtedly played a pivotal role in their own cities, towns, or villages due to their wealth, status, and unique connections to the civilian population.

**Monetization, Pay, and the Position of Roman Soldiers in the Economy**

The Roman army was the first and foremost stimulus to monetization across the empire. By paying soldiers and funding the construction of military infrastructure in cash, the Imperial administration demonstrated a commitment to its own coinage and monetary medium. The stationing of troops in frontier provinces also spread the use of Roman coinage as far as the legions could reach, as soldiers would in turn take their pay with them into the local economies. In some cases, soldiers introduced the very concept of monetary exchange to what had previously been agriculturally based barter-economies, such as in Britain or Northern Germany.\textsuperscript{99}

\textsuperscript{97} Goldsworthy (2003) 73
\textsuperscript{98} Ibid. 72
\textsuperscript{99} Sitta von Riden (2012) 266-271 in CCRE.
Although other currencies circulated in the Roman Empire, most notably the *drachmas* of Syria, by the first century CE there was no real competition to the *denarius*. During the Principate, the *denarius* became what economists call “top-currency”\(^\text{100}\) It had achieved this exceptional role as a result of the monetizing dynamics of the Roman army. \(^\text{101}\) More on this phenomenon will be discussed in *Economic Effects*.

Roman soldiers were paid annually in three installments (*stipendia*) on the first of January, May, and September. The Romans kept meticulous records of soldiers’ pay, and as a result, the pay of legionaries is reliably known; the records were kept both locally and empire-wide. *Principales* were paid one and half times the normal legionary *stipendia* and centurions were paid fifteen times the normal amount. \(^\text{102}\)

In the first century, the standard pay of a legionary was 225 silver *denarii* per year, paid in three installments of 75 *denarii*. Symbolically, this money was to be paid out as three gold *aurei* each time, but was almost certainly paid out in the much more practical silver *denarii*. Under the Emperor Domitian (81–96 CE), legionary pay was increased to 300 *denarii* per year. Finally, Emperor Septimius Severus (193–211 CE) increased to they pay to 450 *denarii*. These increases were implemented in order to account for inflation. After the third century, soldiers’ pay would start to increase significantly, an indication of the spiraling inflation and tanking economy of the empire. \(^\text{103}\)

Calculating what the auxiliaries were paid is difficult to ascertain, as standardization of these units was not common across the empire. Depending on the unit and its function, there

\(^{100}\) A “top-currency” is any currency that has completely eclipsed every other form of currency in its sphere of influence.

\(^{101}\) Von Riden (2012) 272

\(^{102}\) Goldsworthy (2003) 94

\(^{103}\) Ibid. 94
could have been a wide fluctuation in pay.\textsuperscript{104} For example, a cavalryman could expect to be paid more than a standard foot soldier, due to both the specialization and increased operational cost possessed by the cavalryman. Speidel (1992) makes a strong argument that they earned approximately five-sixth the pay of legionaries, a ratio that remains consistent throughout the Principate, including raises in pay to account for inflation.

During the Principate, the value of each type of Roman coin changed frequently, but the exchange rate of each coin remained static; one gold \textit{aureus} was 1/40\textsuperscript{th} a pound of gold and was equal in value to 25 silver \textit{denarii}, 100 bronze \textit{sesterces}, or 400 copper \textit{asses}. Due to economic pressures, the \textit{denarius} would be debased from approximately 93.5\% in 64 CE purity to 74\% purity in 192 CE. After the second century, Roman coinage continued to drop in value as emperors systematically reduced both the purity and weight of the coinage.\textsuperscript{105}

These numbers all represent the gross pay of a legionary. In reality, far less would have actually been paid out to them after numerous deductions were made by the state. Surprisingly, the amount deducted from each \textit{stipendium} is the same almost everywhere in the empire.\textsuperscript{106} During the first century, approximately 80 \textit{sesterces} were deducted from every \textit{stipendia} – this would increase to approximately 100 \textit{sesterces} after 84 CE. Further deductions for boots, socks, hay money, and other supplies were also taken out in annual installments. Altogether, roughly two-thirds to three-quarters of a soldier’s annual pay would have been deducted to pay for supplies.\textsuperscript{107}

\textsuperscript{104} La Bohec (1992) 88
\textsuperscript{105} “Roman Currency of the Principate,” www.tulane.edu/~august/handouts/601cprin.html
\textsuperscript{106} Bowman and Rathbone (1992) 310 and Goldsworthy (2003) 95 based on pay scales recovered from Vindonissa, Vindolana, and Dura-Europas.
\textsuperscript{107} Speidel (1992) \textit{Roman Army Pay Scales} 87-106
The legionary fort at Vindonissa, for example, contains several surviving documents written by legionaries of *legio* XIII *Gemina* in the early first century CE.\(^\text{108}\) From Vindonissa, a pay receipt written by a cavalryman named Clua gives us strong evidence for how soldiers were paid and how they could spend their money. The use of *turma* (“cavalry squadron”) instead of *centuriae* in the receipt indicates Clua and his *turma* were actually a auxiliaries attached to a legion. His commander therefore was most likely a legionary on assignment to the local auxiliary unit acting in support of the legionary garrison.\(^\text{109}\)

*The pay receipt of an auxiliary cavalryman named Clua.*\(^\text{110}\)

According to the receipt, Clua received 50 denarii on July 22, 38 CE as well as a pay advance of 75 denarii – the entirety of his next paycheck. Why he decided to get an advance on all of this money at once is unclear. It is possible he ran into unexpected circumstances and

\(^{108}\) Modern day Windisch, Switzerland at the confluence of the Aare and Reuss rivers.

\(^{109}\) Speidel (1992) 90-92

\(^{110}\) Image taken from Speidel (1992) 90
needed the money immediately.\textsuperscript{111} It is unknown under exactly what circumstances the Roman army willingly allowed soldiers to receive pay early, except for one.

A collection papyrus documents recovered in Egypt contains 62 pay receipts given out to the cavalrymen of III \textit{Galica}. A large majority of the pay receipts show that the cavalrymen requested their yearly hay money in advance. This hay money would have been part of their normal pay and usually would have been automatically deducted from the money given to them. The reason listed for all of them is that the unit was about to be transferred from Alexandria to an outpost in Lower Egypt, which was about 300 kilometers away. It is obvious then that the cavalrymen needed the money early in order to supply their horses during their deployment, and wished to purchase the hay themselves instead of relying on it being issued automatically.\textsuperscript{112} The auxiliary soldier Clua may have needed his money for a similar purpose, as the situations seem remarkably similar.

It is well documented that most soldiers were paid the exact same amount through almost their entire careers; only three percent of legionaries would rise to the rank of \textit{principales} and start receiving one and a half or two times pay.\textsuperscript{113} Additionally, soldiers were paid the same in all provinces, irrespective of the local “cost of living.” Supplies and rations were also deducted at the same standard rates throughout the empire. This implies that the Romans thought of their economy as part of a larger integrated market and gave at least some thought to long-term logistics, as evidenced by the governments tampering with metal purity in coinage. This fixing of prices for legionaries also indicates that imperial administration must have had the ability to fix the price of supplies being distributed to its soldiers throughout the entire empire. Further evidence of this is seen in the imperial state’s ability to collect wheat as tax and to subsidize its

\textsuperscript{111} Speidel (1992) 90-92
\textsuperscript{112} Ibid. 90-92
\textsuperscript{113} Bowman (2009) 299-326
sale throughout the empire.\textsuperscript{114} With this knowledge, it is reasonable to assume that the standard legionary pay was set roughly equivalent to the “average” income of a Roman citizen – the government controlled the price of wheat, so it logically would have provided its soldiers with an “adequate” amount of food as well.

While this is impossible to measure accurately, there are several ways of deducing what the “standard” earning potential of a Roman citizen was. The easiest and most common method of measuring this is to compare legionaries’ earnings to the cost of wheat, a product that would have been consumed by every member in Roman society. Rathbone (2009) examines this extensively, and states that the average soldier’s income would have be equivocal to between 765 and 1,224 kilograms of wheat per year, depending on location and bonuses paid out. This falls slightly under the standard “prosperity” benchmark of 1,500 kg of wheat per year that most ancient historians agree upon as a standard model for measuring standard of living in pre-industrial societies. Rathbone, however, does not come to much of a solid conclusion, stating that they were in fact probably above the prosperity line as there are many factors which are not quantifiable due to lack of data, such as secondary incomes and booty gained from conquest. However, this secondary income would have been sporadic and unreliable, so it had little effect on the day to day life of a Roman soldier.\textsuperscript{115}

**Demographics**

In this section, soldier’s social interactions with civilians will be discussed in depth. In addition, statistics analyzing life expectancy, mortality rates, and marriage will be used to demonstrate to what degree Roman soldiers were interconnected with civilians. This is important

\textsuperscript{114} Bowman (2009) 310

\textsuperscript{115} Ibid. 322
to our overall discussion as it connects the abstract economic theories of previous sections to reality and may possibly explain why certain aspects of the Roman military functioned as they did.

Marriage

Marriage and a career as a soldier have never coincided well with life in a professional military. Recruitment at an early age, long periods spent on campaign or stationed in foreign lands, and a legal ban on marriage did not combine well to create a situation that facilitated strong interpersonal relationships between soldiers and anyone outside their unit. The statistically “average” Roman soldier could expect that upon enlistment, three-quarters of the remainder of his life would be spent on active duty. Of the recruits, close to half may have not even lived to see their discharge from the military at all.116 Under these circumstances, the formation of families does not seem to have been easy to reconcile with military service.

From the reign of Augustus onwards, Roman soldiers were legally incapable of entering into a *conubium* (recognized legal marriage). It is unknown whether centurions were held to this ban or not. However, officers of equestrian and senatorial status were exempt and could marry, provided that their wives were not from the province in which they were stationed. However, soldiers were not banned from cohabitating with women or raising children. Moreover, there were no legal penalties associated with this, so “non-recognition” of marriage would perhaps be more accurate than “ban.”117 It is also important for the reader to recognize that the idea of “marriage” functioned very differently in the Roman Empire than it does today, so it is entirely possible that was a legal precedent that no bearing on reality.

---

116 Scheidel (2007) 417-420  
117 *Ibid.* 422
The Roman government’s approach to the situation did change over time, however. For example, in 44 CE, the emperor Claudius granted soldiers the conventional legal privileges previously only granted to married citizens. During Hadrian’s reign, he decreed that children of soldiers who had died intestate would be treated as the equivalent of cognate relatives. This meant that these “illegitimate” heirs could inherit their fathers’ property so long as a legal heir did not already claim it. In reality, this meant that the children of soldiers had to be able to trace their lineage to a deceased soldier, who they legally were not allowed to count as their fathers. In Egypt, this could be done through birth declarations, some of which even noted that the child was technically “illegitimate” from a military father.\(^{118}\) How this was done in less bureaucratically advanced parts of the Empire is unknown.

A brief aside is necessary to explain the cultural implications of “illegitimate.” As it should be obvious, the Romans did not view these things in the same light as Americans in the 21st century. An “illegitimate” child was not necessarily a bad thing, more that it was simply a legal classification of child. In reality, one’s legitimate or illegitimate status was probably only important in strictly legal situations of inheritance or taxation. The social implications of being the illegitimate child of a soldier outside of these legal parameters were likely nonexistent.

This gulf between legal fiat and social practice is relatively well attested. References to dowries show that military marriages were established in much the same manner as legal marriages, with the exception being that soldiers’ wives were not legally protected in the event of their husbands’ deaths intestate. If their husband were to die without a will, there was no legal way for the wife to recover her dowry.\(^{119}\) In this way, it can be assumed that wills were an

---

\(^{118}\) Scheidel (2007) 420

\(^{119}\) *Ibid.* 421
important part of a soldier’s life. How much wills were valued and to what frequency they were created in updated is unknown.

Why marriage “bans” existed and why Augustus chose to implement them are left to speculation. One well-regarded theory is that the policy was designed to create a pool of illegitimate sons who were raised in a military environment and who had a strong incentive to gain citizenship through service. Phang argues that the ban was meant to emphasize masculine qualities of the professional army and symbolically separate them from the civilian population.\textsuperscript{120} Unfortunately, no extant sources discuss the marriage ban in depth, so there is no definitive answer.

Discharge diplomas from both legionaries and auxiliaries record the various privileges conferred onto veterans upon the termination of their service. The \textit{peregrini} auxiliaries were granted citizenship, and all veterans were granted the right to \textit{conubium} with one, and only one, partner regardless of her civic status. This meant that a soldier was free to enfranchise one non-citizen with legal citizenship, but could marry any number of citizens in his remaining lifetime. An imperial edict in 89 CE also declared all existing parents, children, and wives of soldiers were citizens. In addition, after 140 CE existing children of auxiliary soldiers were granted citizenship alongside their fathers.\textsuperscript{121}

The epigraphical record again serves as an excellent method of analyzing the demographic aspects of marriage in the military. In a study of regional funerary inscriptions by Saller and Shaw, it was discovered that wife-to-husband dedications were substation ally more common than husband-to-wife dedications on tombstones. In more developed provinces, dedications from families account for 60-80 percent of soldiers’ commemorations on

\textsuperscript{120} Phang (2008) 53-85  
\textsuperscript{121} Scheidel (2007) 4
tombstones. Comparably, in frontier regions such as Britain and Northern Germany, family inscriptions only account for 30-40 percent of commemorations on tombstones. In the province of German Inferior, for example, 75 percent of military commemorations of tombstones were carried out by heirs or friends. In the military areas of Lambaesis, Africa (a relatively settled area), just 11 percent of dedications were from friends or heirs.

The ratios of dedications by friends versus families changes over time. In the first century CE, marital and familial dedications may have been scarce due to the relatively high troop mobility of the era due to the concerted military efforts of Augustus and subsequent emperors to create stable borders around the Empire. Likewise, in the second century CE, marital and familial dedications are seen in greater frequency, possibly reflecting the “settling down” of legionary and auxiliary units on the frontiers and subsequent growth of colonae in pacified territories and vici around military installations. If true, this supports the idea that the military brought civilians with it, or facilitated their settlement, when establishing frontier fortresses. The relative lack of families in the first century CE and the relative increase in the second century CE supports this, as it would indicate soldiers settling down and then finding wives among the subsequently “spawned” civilian population.

A minor piece of evidence to support this is found in the fact that equites singulares (“horse guards”), a unit stationed in Rome made up of mostly foreign Batavians, did not intermarry and did not follow the same trend in funerary dedications as soldiers elsewhere in the Empire. This possibly means that the ethnic differences between the equites singulares and the civilians of Rome prevented intermarriage, as opposed to soldiers elsewhere who gradually

122 The 20% difference is the result of differences between provinces; the study looked at North Africa, Noricum, Pannonia, and Spain.
123 Scheidel (2007) Table 1, page 422
124 Ibid. Table 1
developed alongside civilians, eventually becoming of relatively the same “culture.” This development may have been bolstered by an increase in provincial recruitment in the second century, as opposed to recruitment from the central provinces. This provincial recruitment practice would have preserved links to birth families for soldiers and therefore given them a greater chance to have their funerary monuments be dedicated by families instead of comrades, as they were now being recruited from more “local” vici and colonae instead of predominately “Roman” towns of the central empire.  

Survival

The “odds” of surviving in the Roman army are empirically unknown. Epigraphic records help with determining ages that soldiers enlisted by simply subtracting the number of years served from age at death, but tell us little else. Analysis of this data may reveal statistical trends, but it is impossible to prove these hypotheses. Further evidence comes from discharge documentation found throughout the Empire that gives baseline data on the “acceptable” attrition rate from different units under what can be assumed to be stable and ideal conditions. Finally, analysis of archaeological data combined with scientific analysis can help to contextualize qualitative factors such as healthcare, water sanitation, and hygiene in determining overall “survival rate” of soldiers.

As discussed earlier in Structure, approximately two-thirds of soldiers enlisted between the ages of seventeen and twenty. The remainder, with a few negligible outliers, enlisted before the age of twenty-five. Out of these soldiers, seventy-eight percent would survive to thirty-five, sixty-nine percent to age forty, and sixty percent to forty-five. With the average lifespan of

---

125 Scheidel (2007) 420-424
126 Ibid. 426
127 Ibid. 426
a Roman estimated at around twenty-five to thirty years old, this would indicate that soldiers enjoyed a higher standard of living. However, the life expectancy of civilians factors in all ages, including the fact that somewhere between one-third to one-half of children were dead by age five. Soldiers thus enjoyed a statistically higher life expectancy as their “lives” as soldiers began well past the most dangerous part of their lives. In reality, combat, disease, and the potentially harsher conditions of the frontier could have raised the chance of death significantly.\textsuperscript{128} 

Scheidel estimates that an average legion would discharge approximately 120 soldiers per year, based on surviving rosters from legions based around the Lower Danube, North Africa, and Egypt. He says that, “reckoning with an effective troop strength of slightly under 5,000, twenty-five years of service, and an average enlistment age of twenty, we may project an annual intake of 250-260 recruits and an annual discharge of 120 veterans per legion.”\textsuperscript{129} With these numbers, roughly 130 soldiers are unaccounted for every year. However, not all of them would have died. It is most probably that many were discharged either dishonorably (\textit{mission ignominiosa}) or for medical reasons (\textit{mission causaria}). Scheidel also estimates that desertion and transfer to other units may have added to this missing number.\textsuperscript{130} Finally, it reasonable to conclude that in the absence of combat operations, soldiers would not have dramatically different mortality rates than civilians.

Statistics analyzing to soldiers’ deaths in combat are much more accurate during the Republican period than during the Empire.\textsuperscript{131} Literary accounts of deaths during combat are apocryphal at best for the Principate, but nonetheless give at least a baseline for estimations towards combat mortality. Based on Rosenstein’s estimates from the Republican period,

\footnotesize
\begin{itemize}
\item \textsuperscript{128} Scheidel (1996) 117-124
\item \textsuperscript{129} Scheidel (2007) 427
\item \textsuperscript{130} \textit{Ibid}. 427-428
\item \textsuperscript{131} The most significant study of this is \textit{Rome at War: Farms, Families, and Death in the Middle Republic} by Rosenstein, but as to why the Republic is studied so much more in this regard is a total mystery to me.
\end{itemize}
Scheidel estimates that just a 2.6 percent combat fatality rate amongst Republican soldiers. Unfortunately, this number does not transfer to the army of the Principate as that would imply between 8,000 and 10,000 combat deaths per year. Knowing the scale and relative infrequency of combat during the Principate, this is highly improbable.\footnote{Scheidel (2007) 428}

While we cannot accurately assess the actual mortality rate of soldiers due to combat, it was by no means negligible. The Illyrian and German uprisings under Augustus, the civil wars after Nero and under Septimius Severus, the three Jewish Wars, the Dacian Wars under Domitian and Trajan, the Parthian Wars under Trajan, Verus and Septimius Severus, and the Marcomannic Wars under Marcus Aurelius all would have accounted for spikes in combat related deaths, but only about a quarter to a third of the Roman army would have been involved in these conflicts at any given time. For example, of the 239 veterans discharged from \textit{legio VII Claudia} in 160 CE, none had experienced a major combat operation during their twenty-five years of service.\footnote{Corpus Inscriptionum Latinarum (CIL) 3.8110} In contrast, the 230 veterans of the same unit who were discharged in 195 CE appear to have been mostly replacements that arrived around the 160s CE in response to massive losses resulting from combat and disease.\footnote{CIL 3.14507} Like military units today, it appears the Roman army’s mortality rate seems to have varied unpredictably from year to year based on a wide range of strategic conditions.

Just how significantly disease affected the Roman army is unclear. The epidemic that killed a significant amount of soldiers in 69 CE\footnote{Tacitus, \textit{Histories} 2.93} and the Antonine plague of the late 160s CE\footnote{Scheidel (2007) 429. The so-called “Antonine plague” was probably a large outbreak of smallpox.} are the most noteworthy instances of disease affecting soldiers, with few other mentions in the literary record. However, the lack of data only prohibits direct comparisons during the period.
across regions and with other armies throughout history. It does not in any way suggest that disease was a negligible factor in Roman military mortality. Usually, comparisons between the Roman Empire and other periods are illustrative, but in the case of disease, it can be stated with almost complete certainty that disease killed more soldiers than any other factor. Disease up until World War I was the leading cause of soldiers’ deaths, with no exceptions.\textsuperscript{137}

Countermeasures to disease were common and reasonably advanced in Roman military installations. Aqueducts to carry fresh water are present at many fortresses across the empire, wells were ubiquitous, and filtration tanks have been found by many bases located on rivers. In the southern provinces, predominately Egypt and North Africa, cisterns to collect water appear to be common fixtures as well. Latrines capable of servicing dozens of soldiers with functioning “flushing” ability have been found at many larger legionary bases, with some even possessing separate facilities for officers. Finally, one theory suggests that the reason Roman military units did not possess a centralized meal preparation and service area was to prevent the widespread poisoning of a unit; so, instead of an entire legion becoming sick, only a \textit{contubernium} would suffer.\textsuperscript{138} These fixtures would have provided significant benefits to the civilian population as well by providing numerous secondary health benefits, as they would have had access to these facilities as well (with exception to the \textit{contubernium} mean plans).

Permanent legionary bases were equipped with sizeable \textit{valetudinaria} (“military hospital”) run by \textit{optiones valetudinarii} (“hospital officers,” not a direct translation). The base at Novaesium (Neuss, Germany), for example, possessed a \textit{valetudinaria} that was more than an acre in size. It is estimated to have been capable of housing 260 patients at one time.\textsuperscript{139} Whether

\begin{footnotesize}
\textsuperscript{137} Scheidel (2007) 429
\textsuperscript{138} \textit{Ibid}. 430
\textsuperscript{139} \textit{Ibid}. 431
\end{footnotesize}
or not these medical facilities were available to the civilian population is unclear, but at the very least, it is reasonable to conclude that soldiers’ families would have access to them.

**Retirement and Other Benefits**

Upon retirement, legionaries were entitled to a significant discharge bonus to assist them with reintegration into society. In CE 6, Augustus started the *aerarium militare* ("military treasury") with the explicit purpose of using it as a pension fund for soldiers. The initial investment was 170 million sesterces from Augustus’ private funds and was supplemented by a one percent tax on auctions (*centisema rerum venalium*) and a five percent tax on inheritances (*vicesima hereditatum*) every year. Finally, former soldiers were also exempt from certain public taxes and tolls. The exact public taxes varied between provinces.\(^\text{140}\) A retiring legionary could expect to receive 3,800 *denarii* on discharge.\(^\text{141}\)

Under Augustus, veterans would spend their last four years of service in a state of "inactive reserve" until finally discharged from their unit. Although foundation of veteran colonies continued throughout the Principate, the practice lost popularity following the massive resettlement efforts after the civil war. The decrease in popularity for this practice came simply from the decreasing amount of available land to give away to soldiers. It became much simpler to give the legionaries a direct amount of money than to set up extensive land holdings and veteran colonies.

\(^\text{140}\) Southern (2006) 167
\(^\text{141}\) The sestercius was probably the most common form of currency during the Principate. They were small brass coins worth about \(\frac{1}{4}\) that of a denarius or \(\frac{1}{100}\) that of an Aureus (or Ass). Under Augustus, the denarius contained around 4 grams of silver.
As a result, the Imperial government left it up to the individual soldiers where to live after serving. Not surprisingly, most soldiers chose to settle at or around their former post. This was because they had most likely spent their entire career in the same place and benefitted from the existing social structure around them. As a result, legions stationed in a region for long periods would diffuse into society and slowly integrate it, making the empire more homogenous as the different peoples were slowly mixed together. While there is not enough data to surmise precisely what most legionaries did upon discharge, what does exist suggests that most went on to have other careers as active members of their community.\textsuperscript{142} It makes sense that former soldiers would continue to be active members in their community as business owners or leaders, especially if a large portion of that community was made up of their peers and comrades.

Scheidel estimates that between 3,000 and 3,600 legionary veterans were discharged annually, with a similar number of auxiliaries. This number would have sustained a population of veterans that numbered approximately 100-120,000 men, representing a sizeable portion of the total population of the Roman Empire.\textsuperscript{143}

The Imperial government established no institution for the care of veterans after their service and simply expected that they would use their state-given benefits to become upstanding members of society. Therefore, although the state showed little interest in veterans following their time in the military, a Roman soldier would not find himself begging on the street corner except due to his own financial mistakes. It was in the best interest of the government to provide this initial capital investment to soldiers, as they were the chief agents of Romanization in the empire and often formed the economic backbones of their communities.

\textsuperscript{142} Southern (2006) 166.
\textsuperscript{143} Scheidel (2005) 15
Chapter 3: Consumption and Production in the Roman Army

The Roman army was the most prolific organization in the Empire. The responsibility of supplying and maintaining the soldiers of the legions and auxiliaries touched every level of Roman society. The complex systems that existed to support soldiers were multi-faceted and subject to the variations depending on the local province. Because of this, it is difficult to identify specific features that can be classified as “typical” or “characteristic” of the Roman logistical network. However, supplying the local garrison was a central feature of provincial responsibility and was a key task for any member of the imperial bureaucracy. The central administration strived for self-sufficiency in all provinces, as opposed to a reliance on a central logistics network. The rationale being that self-sufficiency reduces risk in transporting goods and removes the supplying soldiers on the periphery of the empire. In this vein, it is logical to conclude that legionaries and auxiliaries were much more integrated into the civilian population than scholars have previously thought as a means of obtaining a theoretical “maximally efficient” self-sustainment. This chapter will examine the formal and informal economic organizations that existed in the Roman army to pay, feed, and supply its soldiers. Further, it will argue that the Roman military operated an extensive production base that both facilitated economic transactions between civil-military institutions, and worked to rectify the issue of self-sufficiency for units located away from main avenues of supply.

The Hungry, Hungry Legion: Consumption

As discussed in Monetization, Pay, and the Position of Roman Soldiers in the Economy, a significant portion of a soldier’s pay would be spent on his own supplies, including everything from his armor and sword to food and firewood. Soldiers enjoyed a varied diet, consisting of
mostly cereals, seafood, beans, and lentils.\textsuperscript{144} In addition to their nutritional requirements, soldiers required significant amounts of firewood to cook and eat with and fodder for their horses and pack mules. Meals were not cooked or distributed centrally to soldiers; instead, they were given uncooked grain as part of their standard issued supplies with the expectation they would make their own meals.\textsuperscript{145} The typical daily ration of wheat (\textit{frumentum}) for a legionary was anywhere from 850 to 1,500 grams, depending on the time of year.\textsuperscript{146}

\textit{Frumentum} refers specifically to the wheat ration, but soldiers also received what was called \textit{cibaria} ("provisions") of the other types of food necessary to keep them healthy. The \textit{cibus castrensis} ("camp diet") consisted of the seven basic "food groups" – at least as the Romans saw them: \textit{frumentum} (grain), \textit{laridum} ("salt pork," but generally any meat), \textit{faba} (beans and lentils), \textit{caseus} (cheese), \textit{oleum} (olive oil), \textit{acetum} (sour wine/vinegar), and \textit{sal} (salt).\textsuperscript{147} Unlike modern diets, the typical Roman soldier would have eaten mostly a vegetarian diet with less than a quarter of his calories being derived from meat-based proteins.\textsuperscript{148}

The amount of meat that each soldier would have been issued was approximately half a pound per day, but this varied from unit to unit and is an average, not a standard.\textsuperscript{149} Oxen bones are the most prevalent type of animal remains left at Roman military sites. Pork and mutton were less common, most likely because they were simply less common around the empire. A legion in garrison would have kept a \textit{pecus} ("herd")\textsuperscript{150} in order to gather its own meat. The army on

\textsuperscript{144} Roth (1999) 7-14 Roth gives a very detailed analysis of the potential diet and caloric intake of a Roman soldier, using modern infantrymen as a measure in addition to the writings of Polybius.
\textsuperscript{145} Ibid. 59.
\textsuperscript{146} Roth (1992) talks about this and essentially concludes that accurately estimating ancient crop yields or prices is virtually impossible and so provides a reasonable estimation based on multiple studies. In \textit{Wheat Production and Its Social Consequences in the Roman World} (1981), Evans comes to similar conclusions and found that wheat production varied tremendously across the ancient world.
\textsuperscript{147} Ibid. 26
\textsuperscript{148} Woolf (1998) 169-205
\textsuperscript{149} Ibid. 32
\textsuperscript{150} Typically referring to cattle but also can be used for other cloven animals.
campaign would also typically have driven a herd with its baggage train, and Caesar specifically mentions the large supply of beef his army had while at Dyrrachium. Further, Marcus Aurelius apparently negotiated in the Quadi’s surrender in 170 CE that all of their cattle would be turned over to his legionaries.

Legumes such as beans, lentils, and peas were the main source of protein for the Roman soldier. Incidentally, legumes may have been part of what the Romans would have seen as a stereotypically military diet; analysis of plant remains from the legionary camp at Novassium show that 53.1% were from legumes, while the corresponding figure for the civilian population center at Vetera was only 15%. Legionaries would have been issued approximately one sextarius of beans per day, or about 130 grams.

Roman soldiers ate cheese from cow’s, sheep’s, and goat’s milk as their main source of dairy. Cheese presses are present at many military sites, which suggest that the soldiers made their own cheese when in garrison. How much dairy a soldier would have received is too varied to estimate. Presumably, soldiers in Britain would have much more than those stationed in Africa.

Olive oil was a characteristic staple of the Mediterranean diet during the first and second centuries. Unlike with cheese, ample literary evidence exists that discusses olive oil and its distribution. A papyrus from a military hospital at Masada, for example, lists olei cibarii (“eating oil”) as part of the necessary rations for sick soldiers. A separate document states that each soldier was given four librae of olive oil a day, or one and half ounces.

---

151 Bello Gallico 3.47.6 Durres, Albania
152 Historia Romana 72.11.2
153 Neuss, Germany
154 Xanten, Germany – about 65 kilometers from the fort.
155 Roth (1992) 33.
156 Ibid. 34
157 Ibid. 35
Legionaries and their auxiliary allies alike took part in the crucial task of finding an *aquatio* ("watering place"). This job, among other foraging activities, fell on a special group of *princapales* known as *metatores* ("camp markers") whose job was to locate and measure out a site for an army’s camp. Sources rarely mention a discrete water ration, most likely because it was such an essential part of daily function to be assumed as obvious. Nonetheless, a Roman soldier would have required around two liters of water a day to function normally.\(^{158}\)

In addition to water, the Romans drank a significant amount of sour wine (*posca* or *acetum*), made by mixing undiluted wine or vinegar with water.\(^{159}\) This drink is antiscorbutic, meaning that it prevents scurvy, and so it was essential part of the ancient diet. While the Romans would not have understood the science behind this, they nonetheless understood the health benefits and made sour wine a standard issue item to all of their soldiers. Each soldier would have been issued about half a *sextarius* per day, or about a quarter of a liter.\(^{160}\)

Human salt and water requirements are closely linked, and while the Romans did not likely understand the nuanced relationship between the two, they nonetheless ensured that every soldier got a ration of salt. Salt was required to preserve meat, make food more palatable, and for medicine. A document in Egypt shows that salt was issued by the army in order to bake bread.\(^{161}\) Vegetius also lists salt along with grain and vinegar as part of the absolute necessities for provisioning an army.\(^{162}\) The Roman soldiers probably would have received about five grams a day.

---

158 Roth (1992) 37
159 This is the same sour wine that the legionaries offer to Jesus on the cross in Gospels, and there is some scholarly debate as to whether or not this was an act of mercy or derision. John mentions in this passage that “hyssop,” an aromatic flower, was added to the sour wine for flavoring. This would have been standard at the time.
160 Roth (1992) 38 and *Historia Augusta* 10.2 in Hadrian’s biography, specifically mentioning *acetum* as part of the *cibus castrensis*. Vegetius also emphasizes the importance of wine in his work *De Rei Militari*.
161 *Ibid*. 41
162 Veg. *De Rei Militari* 3.3
Because each eight-man fighting unit (*contubernium*) had to cook their own meals, a legion would consume a significant amount of firewood daily. The supply of firewood to the army would have been handled internally by units through *lignari* assignments (gathering wood), using the labor of soldiers to acquire the necessary fuel. However, for units stationed in a province for an extended period, charcoal and peat were supplied from the local economy to supplement the soldiers’ own efforts.\(^{163}\) Each *contubernium* was also given one mule for carrying supplies. The type of labor available to a legion varied from province to province, and will be discussed later in *Economic Impacts of Legions on Local Populations*.

Fodder was another essential item in maintaining the army’s ability to fight effectively and the assignment of *pabulari* (“fodder gathering”) was essential. In terms of weight, it was most likely the heaviest item carried by the army on the march as it was the item most consumed by legionary fortresses. Every *contubernium* had a pack mule, in addition to potentially hundreds of horses and other herd animals.\(^{164}\) Therefore, it is reasonable to conclude that the local economies, especially in the rural frontier provinces, would have devoted significant effort to supplying the fodder and pasturage for the legionary horses and other beasts of burden.

Contrary to modern military practice, the state did not provide Roman soldiers with their own weapons, clothes, or armor.\(^{165}\) This meant that the individual soldiers, or their commanders, would have to work with the local provincial bureaucracy in order to obtain this equipment. As with their grain and other staple foods, it is likely that the legionaries were able to purchase these items at a fixed price by the Imperial administration of the province. More specific details and evidence on this phenomenon will be provided in a later section.

\(^{163}\) Roth (1992) 60
\(^{164}\) *Ibid.* 61
\(^{165}\) *Ibid.* 218
There were two discrete possibilities for acquisition of supplies in the empire. One, in provinces where taxes were paid directly in cash, legates and tribunes could have given legionary and auxiliary commanders money directly to purchase supplies from the local economy. Second, in provinces where taxes were paid in kind with direct supply of goods, imperial authorities could have simply ordered part of the “taxes” to be delivered directly to the military outposts or depots. An example of the first type of acquisition is evident in the soldiers of Cohors XX Palmyrenorum, an auxiliary infantry-cavalry hybrid detachment from the garrison at Dura-Europas, where they were dispatched to buy additional barley from the locals. A second papyrus document refers to men sent out to recover grain in a similar manner. An example of the second type is seen with a collection of amphorae found in Pannonia addressed to a centurion named Lucius Aconius Statura and were bound for the XV Apollinaris legion stationed at Carnumtum on the upper Danube.

A typical province would have had two legions garrisoned in it, in addition to an equivalent number of auxiliaries. The personnel count would have been roughly 12,000 men with 2,000 horses and other pack animals. Each man was rationed 1.5 kilograms of grain per day, which meant the entire garrison force would have required eighteen tons per day. Likewise, the animals would have required twenty tons per day. In a single day, this army would have theoretically consumed the product of 44.5 acres of arable land. Just as a soldier moves equipment around in his pack to ease the burden, it is logical to conclude that, the legates in charge of these units would have “shifted around” forces in a province in order to evenly

---

167 Dura Final Report 5.1 “auxiliary infantry-cavalry hybrid detachment” is a mouthful, but unfortunately “mobile infantry,” while accurate, would be anachronistic.
168 Ibid. 4.1
169 Literally “jug,” these large pieces of pottery were the primary form of transport in the Roman world.
distribute them and ease the burden on the local population. In fact, Caesar writes about doing this in the winter of 53 BCE during his Gallic campaigns (*Bello Gallico* 6.44). As far as the army of the Principate is concerned, Vegetius in *De Rei Militari* (“Concerning Military Matters”) has this to say about the purpose and function of a garrison’s acquisition of supplies:

> Amongst the things for which it is thought a commander must make provision, whether based in camp or in a city, are that pasturage for the animals, the transport of grain and other things – watering, gathering of wood, and foraging – are rendered safe from attack by the enemy. Because otherwise, if garrisons are distributed at appropriate points, whether these should be cities or walled forts, our supply convoys cannot pass to and fro. If suitable places have not been fortified previously, they are strengthened; forts in such places are quickly surrounded by large ditches... The infantry and cavalry are responsible for maintaining a safe route for convoys. For only with difficulty does an enemy dare to approach, once he is hindered from in front and beyond. (*De Rei Militari* 3.8)

Based on Vegetius’ writings, it appears that the Roman army continually faced an issue with force distribution in the provinces. The soldiers garrisoned on the front had to exist in order to defend the logistical network that supplied them, which in turn was necessary to maintain the soldiers. The issue lies in the diffusion of the army. Decentralizing a garrison would ease the strain on the logistical network at the cost of separating the soldiers geographically. With this simple fact, one can speculate that the decision on how to divide a legion would have been considerable for a legionary commander. One possible solution posited by M.C Bishop is that the legions would have been divided according to the “threat level” in a province. A “low-level
threat” province, mainly harassed by brigands and petty theft could have afforded significant division, a practice typical in the west and Britain. A “high-level threat” such as organized line infantry from other centralized empires would call for more centralized concentrations of soldiers for faster mobilization. Unfortunately, there is no way to know exactly what the rationale behind the distribution of forces was, as one legate may have had a drastically different approach than another.

The State Tries to Meet the Challenge: Supply

By what means did the Roman army fulfill its transportation requirements? Previous sections have dealt with the regional requirements for supplying a legion or auxiliary unit in a province. Based on the evidence available, it appears that most of the supplies needed to maintain a unit at its basic operating level came from the local authorities. However, for soldiers located on the frontier of the empire, the local economy was not always sufficient to meet their needs and so connections to a larger logistical network were required. It is also unreasonable to assume that any region could have achieved true self-sufficiency, as even highly urbanized provinces such as Syria or Italy were unable to produce the volume or variety of agricultural and industrial products that a legion required.

Further, even if a legion were able to supply itself completely from the province where it was garrisoned, communication between it and Rome still required a sophisticated and efficient network of correspondence. The movement of legions in times of crisis required significant coordination across the empire that simple provincial connections would be unable to facilitate. In this section, we will discuss the “bigger picture” of the logistical network that made it possible
for the Roman army to operate as a unified force across the Mediterranean and in the far-flung provinces of Europe.

The unity of the Roman Empire during the Principate, coupled with its excellent harbor facilities and roadways, resulted in significant growth and sophistication of commercial activity unequaled until the industrial era. The military’s huge supply demands meant that internal trade was far more important than foreign commerce. The movement grain and other raw materials between provinces, especially for military purposes when on campaign, constituted the vast majority of trade within the empire.¹⁷²

Because of its heavy investment in this logistical network, much of the transportation of supplies was handled directly by the army. If its assets were not sufficient, they could requisition local suppliers and work in concert with the regional authorities.¹⁷³ However, this does not address the long-term supply requirements of the army. Moreover, as the empire expanded and settled into newly conquered territories, the need to upgrade the transportation routes between provinces grew increasingly important, with priority going towards the movement of large quantities of grain from Egypt and Africa to the legions stationed along the Rhine, Northern Gaul, and to Rome itself.

As discussed in Consumption, Roman military units obtained as much of their supplies directly from the surrounding environment as possible. Using prata (“military land”), figlinae (“pottery workshops”), and fabricae (“workshops”) they were able to produce their own equipment. If they could not directly acquire something, the army could requisition it through trade or obtain it through taxes and confiscations within the local populace. However, the latter option was avoided if possible, and most native uprisings were the result of legionaries and their

¹⁷² Lewis and Reinhold (1990) 106-017
¹⁷³ Erdkamp, Kolb (2002) 162
commanders abusing this power. Military land could have been cultivated by soldiers, if available, or leased to civilians for a share of the product.\textsuperscript{174} Evidence of this is seen on Trajan’s Column, which depicts soldiers engaged in a variety of agricultural tasks, including gathering firewood and harvesting grain.\textsuperscript{175}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{trajan_column.png}
\caption{Unarmored legionaries chop trees to clear a path and collect firewood on campaign.}
\end{figure}

\textsuperscript{174} Erdkamp, Monfort (2002) 72-73
\textsuperscript{175} Trajan’s Column scene 92 (firewood) and scenes 109-111 (grain)
Another option for local military supply was *hospitium* (“billeting”), which meant that soldiers would live with local civilians. This practice was more common in eastern provinces, such as Syria or Palestine. Civilians would house the soldier as well as provide food and clothing. Only other soldiers, veterans, teachers, doctors, orators, and philosophers were exempt from compulsory billeting.\(^{176}\)

Ideally, the local units would keep their fortresses stocked with enough supplies to last one year. In 78 CE, Agricola made it a direct order for all legions stationed in Britain to have at least a year’s supply of grain stored away at all times.\(^{177}\) However, this was not always possible in the under-developed frontiers of the empire (Africa, Northern Germany, and Northern Britain), which incidentally were where the majority of units were stationed.

To combat this supply issue, every province had a *procurator Augusti*, who served as the highest financial authority in provincial administration. They were responsible for military

---

\(^{176}\) Erdkamp, Monfort (2002) 73  
\(^{177}\) Erdkamp, Monfort (2002) 74
supply, as well as farming taxes from the region. According to the number of soldiers, the
procurator would assign a proportional amount of money to each unit’s commanding officer in
order to obtain supplies from the local market. However, not all supplies were easily acquired
from local towns and so a complex market of private traders emerged to fill the void.¹⁷⁸ More on
these merchants will be discussed in a later section.

The procurator had to organize the supply of all the military detachments that could not
locally obtain resources. In order to do this, the procurator had the authority to purchase supplies
in bulk from foreign and regional merchants. Overland transport became a general problem in
Roman military strategy as a result. Special detachments of frumentarii (“obtainers”)¹⁷⁹ were
dispatched to meet and guard supply caravans coming from ports inland. Because of the
difficulty involved in this, legionary headquarters were located along major bodies of water in
order to facilitate over-sea trade.

Frumentarii were unique units, usually found at a provincial capital acting directly as part
of the governor’s officium (“service/duty”). Sometimes if their mission required it, frumentarii
would travel far outside a province in order to ensure the safe and timely acquisition of goods for
their unit. In addition to the frumentarii, a separate unit known as beneficiarii (“privileged ones”)
existed that carried out administrative inspections of goods in order to avoid fraud. Beneficiarii
probably found themselves in the governor’s officium doing paperwork far more often than their
frumentarii counterparts, who got to work in the field.¹⁸⁰ These two specialized units were
located at key intersections of supply and communication and were major figures in the logistics
network, second only to the procurator. In a later section, the relation of beneficiarii to the
civilian market will be examined, as they formed a link between soldiers and citizens.

¹⁷⁸ Erdkamp, Monfort (2002) 75
¹⁷⁹ Literally “grain getters”
¹⁸⁰ Erdkamp, Monfort (2002) 77 – Image scanned from the same work.
Beneficiarii and frumentarii were some of the most common imperial agents because of their important responsibility. Because of their ubiquity in the empire, they fulfilled a variety of secondary duties, including police officers, spies, port traffic controllers, and tax collectors. The following map shows a distribution of major beneficiarii headquarters in the Roman Empire.\textsuperscript{181}

From this image it is readily apparent how prolific the beneficiarii were, and why they fulfilled so many different roles.\textsuperscript{182}

Facilitating all of this communication and transit was the *cursus publicus* (“public way”), which acted as the universal land transportation system of the Roman Empire. The imperial road network was nearly 100,000 kilometers long and was marked by over 8,000 milestones.\textsuperscript{183} The primary function of these roads was to facilitate the military bureaucracy as discussed

\textsuperscript{181} An interesting aside to the beneficiarii is that to date no significant effort has been made to study them specifically. Any current or aspiring scholars should take note that a prosopographical study of the beneficiarii would be a great contribution to the field of Roman studies.

\textsuperscript{182} Image taken from The Roman Army and the Economy

\textsuperscript{183} Erdkamp, Kissel (2002) 127
previously. The massive economic benefits were a highly beneficial by-product, and not the primary purpose of the roads.  

The cost of the road network was enormous. Theodor Kissel estimates that the total network would have cost 500,000 *sesterces* per mile to construct, totaling nearly one quadrillion! This of course is based on an estimation assuming the entirety of the 100,000 kilometers was constructed at once and that the entirety of the Roman road network was built by the government. Obviously, this is not the case. Kissel merely uses the number to illustrate the scope and cost of the imperial road network. The cost of construction would have of course been diffused over six hundred years and amongst the local provincial governments. The purpose also is to demonstrate the reliance of the Roman state on the provincial governments in constructing these roads. Generally, the responsibility for constructing these roads fell onto the procurators of a province, or in imperially owned provinces like Egypt, the legionary legate. Because of the enormous cost, the Imperial administration would have chosen to financially incentivize road construction, rather than directly finance it.  

The *cursus publicus* was staffed by members of the imperial bureaucracy at way stations along the various routes. The actual transport and movement of goods was up to the merchant or agent using the road. As Kolb states, “the institution was thus an infrastructure for the use of those entitled to it.” As servants to the emperor, military personnel, such as the *beneficiarii*, had access to the *cursus publicus* when they were on official business. Authorization to utilize the imperial road network was contingent upon the possession of an imperial warrant, granting

---

184 Erdkamp, Kissel (2002) 129
185 Yes, this is in fact the number provided by Kissel. For scale, if all of those sesterces were converted into aurei and the gold was melted down, it would be 4.15 gigaliters of gold – enough to fill 1660 Olympic-sized swimming pools.
186 Erdkamp, Kolb (2002) 130
187 Ibid. 151
188 Ibid. 163
access to its way stations and routes. The military would have accounted for a significant portion of the travelers along the *cursus publicus*. This was because the administrative structure of the Roman Empire was largely staffed by soldiers of various ranks.\(^{189}\)

Evidence supports that the Romans were capable of moving large amounts of provisions over considerable distances. The examples of this are numerous. During the first century, the imperial governor of Baetica in Spain was responsible for sending grain to the army stationed in Mauretania in Africa. In Dacia, an annual strength report from the *Cohors I Hispanorum Veterana* (an auxiliary unit in Dacia) reports that soldiers had been dispatched to Gaul to arrange the shipment of grain to their home station.\(^ {190}\) An analysis of *amphorae* used in shipping shows that a portion of the wine supplied to legionaries in Gaul originated in Italy.\(^ {191}\) Additionally, the following map marks sites where *amphorae* destined for legions were discovered in the region of Pannonia, demonstrating the interconnectedness of the Roman internal trade network:

---

\(^{189}\) Erdkamp, Kolb (2002)164

\(^{190}\) Roth (1999) 166. Other examples of this are evident throughout my paper as well, See: Erdkamp, La Bohec, and Scheidel.

\(^{191}\) Roth (1999) 167.
An amphora is pictured in the lower left hand corner. However, they came in all sizes and shapes.  

The supply network was not limited to overland trade routes. Albeit the safest and most reliable, this was the least efficient means of transporting goods. Whenever possible, goods were transported via sea, as this was the cheapest and fastest method available. Few provinces in the empire lacked a direct connection to the sea, so it was cost effective to move goods on ships for as far as possible before the goods were transferred onto the road network. Major rivers such as the Danube, Rhine, and the Nile facilitated this transport with barges. In many instances, armies would march along the coast as barges or shallow water ships followed along the coast. Tacitus discusses this in regards to the activities of the legions in Germany in 55 CE:

To prevent their soldiery from being kept sluggish, the governor [Paulinus Pompeius, suffect consul] finished off the embankment begun sixty-three years before by Drusus for curbing the Rhine; Vetus was preparing to connect the Moselle and Arar by making a

---

192 Image taken from Bezecky, Amphorae Inscriptions – Legionary Supply?
193 Roth (199) 189
conduit between the two, so that provisions transported by sea and then along the Rhone and Arar might travel by means of the conduit (Annals 13.53.2).

Roman military transport ships were quite large for their time, carrying upwards of 900 tons of goods with an average size somewhere between 360 to 450 tons. In most cases, the army would contract civilian merchant ships for the transport of goods. The Isis, a civilian owned ship described by Lucian in Navigium (“The Ship”), is described as having a potential hold of 1,300 tons. This was considered exceptional, however, and most privately owned ships were probably around fifty tons. The typical speed of a Roman cargo ship was slightly greater than one hundred miles a day, or five knots. Comparatively, a caravan carrying a similar amount of materiel could expect twenty-three miles in a day.

Roth estimates that a sixth month supply of grain for three legions and accompanying auxiliary (40,000 men) could be transported on 200 thirty-ton ships. The sailors on these ships of course had to be fed and supplied as well. Because of this need, they would frequently make stops at ports and coastal cities. Shipment by sea could provide the greatest quantity of goods, but ancient naval technology was highly susceptible to powerful storms of the Mediterranean and so every long-distance trip was relatively perilous.

However, the army did not always have to move all of its supplies at once. A legionary fleet could ferry supplies over the course of several months from multiple locations. Antonius Primus did just this in 69 CE, proposing to “fill the Po and the sea with convoys of

\[\text{References}\]

195 Bezecky (1996) 112
196 Ibid. 111
198 Ibid. 196, the author makes note here that few historians consider the logistical needs of the sailors required to crew the ships to supply the legions. However, I believe this is because the line needs to be drawn at some point; otherwise, the discussion loses sight of its original purpose and needlessly discusses logistical considerations of non-military personnel.
provisions.” This demonstrates that the Romans possessed an incredibly sophisticated supply network. Equally impressive is their apparent ability to coordinate the movement of so much materiel using only couriers.

In addition to ongoing supply lines, the Romans also had hundreds of imperial *horrea* ("storage barns") in which they kept the untold millions of tons of grain, salt, fodder, firewood, and other items of military necessity. They possessed the ability to store grain for as long as ten years. Grain was most likely stored in sacks containing approximately thirty-five kilograms of wheat. The denominations of grain in sacks were not a coincidence, as two sacks contained the exact amount of wheat for one century of soldiers. The following two images are taken from Trajan’s Column and depict soldiers moving sacks of supplies.

*On the left, two legionaries load bags of grain onto a barge. On the right, they are moving the bags into the depot their comrades are building in the background (image taken from Trajan’s Column, scenes 47 and 17 respectively).*

These military depots were distributed across the empire. If the harbors represent the arteries, and the *cursus publicus* represents the veins of the military, then these depots would be

---

199 Roth (1999) 194
200 *Ibid.* 185
201 [http://www.trajans-column.org](http://www.trajans-column.org) Scenes 47 and 17, respectively.
the capillaries leading to the soldiers. Depots were always guarded, likely by a garrison of approximately cohort size or larger. Literary references to *castella* ("forts") often refer to supplies being stored at these locations as well, giving them a dual purpose of defense and logistical support.\footnote{Roth (1999) 188} The soldiers in the following image are probably meant to be building a supply depot or *castella* for their campaign against the Dacians.\footnote{http://www.trajans-column.org Scene 17 Image taken from Trajan’s Column, scene 17}

![Image of legionaries engaged in various labors](image.png)

*Here legionaries are seen engaged in a variety of labors, from depot building to trench digging.*

Tacitus describes that, on occasion, the military would construct its own ships in particularly demanding circumstances, such as Germanicus’ invasion of Germany in 16 CE:

> Silius and Caecina were made responsible for the construction of a fleet. A thousand vessels were considered enough and were built for speed. Some were short craft with very little poop or prow, and broadbellied, the more easily to withstand a heavy sea:

\footnote{Roth (1999) 188}
\footnote{http://www.trajans-column.org Scene 17 Image taken from Trajan’s Column, scene 17}
others had flat bottoms, enabling them to run aground without damage; while still more were fitted with rudders to each end, so as to head either way the moment the oarsmen reversed their stroke. Many had a deck flooring to carry military engines, though they were equally useful for transporting horses or supplies (Annals 2.6.2).

Rivers were the most preferable method of transport in the Roman Empire, as they combined the speed of sea transport with the safety of overland routes; it is much harder to sink a ship in a river, and much easier to survive such an event. The Rhône into Gaul, the Rhine into Germany, the Danube into Pannonia, Dacia and Noricum, the Tigris and the Euphrates into Mesopotamia and the Nile into Ethiopia and Egypt are all examples of Roman river trade routes. River transport had certain inherent perils, however, namely droughts and floods. Tacitus describes such an incident in 69 CE, which demonstrates just how important provisions were to an army and the dangers of river transport:

The Germans started to drag to their bank a ship loaded with grain, which had grounded on a bar. Gallus did not wish to allow this and sent a cohort to rescue the ship the two sides engaged in a pitched battle (Hist. 4.26).

The advantages of river transport are obvious when considering the capabilities of river barges. Roman riverboats ranged in capacity from nine to thirty-four tons. The smallest riverboat discovered could transport the equivalent of approximately eighteen wagons or seventy-two

\[205\] Roth (1999) 197
mules. Further, a single horse hitched to a barge could move 250 times the load attached to its back.\textsuperscript{206}

The Romans dedicated significant resources to maintaining and constructing the supply network that supplied their military. The intricate network of roads, rivers, and ports demonstrates the complexity of the logistical network required to maintain the army as well as the sophistication of the bureaucracy that administered it. It exemplifies the Roman’s unique ability to delegate authority in an efficient manner in order to accomplish enormous public works projects such as the \textit{cursus publicus} and the maintenance of the legions and auxiliary units. This burden was by no means oppressive, however, as it provided numerous secondary benefits to the surrounding provinces by facilitating trade and transport of goods. Thousands of civilians were employed across the empire in the production, maintenance, and transportation of Roman army supplies.

\textbf{The Army Gives Back: Production}

It has long been accepted that Roman soldiers were heavily involved in building and manufacturing of goods. Evidence of this already existed in the literary record, referring to soldiers helping to build roads and walls, but modern archaeological discoveries have revealed that soldiers were engaged much more than previously thought. Roman soldiers were incredibly well integrated into the civilian population, possessing a variety of jobs in construction and production of goods. Additionally, it has appeared in recent years they lived in much closer proximity to civilians than previously thought. This section will examine how legionary and auxiliary soldiers worked and produced for their local communities. Using archaeological

\textsuperscript{206} Roth (1999) 198, the author references a study by Anderson (1993) which used Roman supply lines in Britain as examples.
evidence from the legionary and auxiliary fortresses of Vindolanda, York, and Dura-Europas, it will demonstrate that the legions were in fact an integral part of their local production centers.

The typical Roman military camp functioned partially as an industrial production center and a workshop. This was done to increase self-sufficiency and decentralize production. Large *fabricae* ("workshops") have been found in fortresses along the British, Rhine, Cyrenaica, and Danube frontiers and, so were probably a standard feature in any major installation. Typically, a *fabrica* would be located at the center of a fort and range in size up to 108 by 131 feet. Even larger *fabricae* appear as annexes outside legionary bases, the most notable of which is the compound at Corstopitum, near modern day Corbridge, England.²⁰⁷

The *fabrica* at Corstopitum was divided into two compounds: east, where the soldiers slept and west, where they worked. The west compound contained two sheds over 70 feet long equipped with anvils, hearths, and metal tempering tanks. The work sheds offered 6000 feet of floor space and were staffed by a force of between 100 and 150 soldiers.²⁰⁸

The military was keen on marking off its land, and it seems that clear distinctions were made between public land (*territorium* or *ager publicus*) and land set aside for military use (*prata*).²⁰⁹ Most likely, the latter would have been set aside for cultivating produce (not unlike an estate in Italy) or pasturage and drill zones for cavalry. Soldiers would have also been divided out into the province, where they would have labored at the discretion of either the legate or provincial authorities on behalf of the proconsul. Several documents from the auxiliary fortress Vindolanda give insight into some of the activities that soldiers would have undertaken.

There were three cohorts of auxiliaries at the fortress of Vindolanda: the first and third Tungrian Cohorts, and the ninth Batavian cohort. They were stationed at Vindolanda around the

---

²⁰⁷ McMullen (1963) 25.
late first and early second centuries. Both groups were ethnically Gallic, and originated in northern Gaul (France). Because the Vindolandan cohorts will form the center of our discussion, a short digression is necessary to discuss their backgrounds so that their presence will be better understood and appreciated.

Historically, the Batavians contributed the highest numbers of soldiers to the Roman army of all the Gallic tribes, with some estimates suggesting that one son from every household served. They were unique in that their commanders were drawn from local nobility, rather than Roman officers. They were renowned horsemen and also contributed soldiers to the emperors’ bodyguard. The Batavians’ homeland is near the mouth of the Rhine in the south of the region of Noviomagus.210

The Tungrians were not as active contributors to the Roman army as the Batavians. Incidentally, they began service when a unit was raised to help suppress a brief Batavian revolt in 69CE. Afterwards they participated in the continued conquest of Britain, where they would remain for the duration of Tungrian contribution to the Roman army. The Tungrian homeland of Atuatuca Tungrorum lies along the middle stretch of the river Meuse.211

A select few individuals are clearly attested as leadership of the units around Vindolanda: Iulius Verecundus, prefect of the First Tungrian cohort, and Flavius Cerialis, prefect of the Ninth Batavian cohort. Iulius Verecundus’ name was a common name, and so does not give any hints to the individual’s origin. Flavius Cerialis, however, was possibly the son of Petillius Cerialis, the general who suppressed the Batavian revolt in 69 CE. It is highly likely that Cerialis and his father were granted citizenship as a result of their auxiliary unit’s performance during the revolt. Cerialis’ position as prefect of the Batavians suggests that he took over command from his father

210 Vindolanda Online – Vindolanda Units and Their Origins. Now Nijmegen, Netherlands
211 Vindolanda Online – Vindolanda Units and Their Origins. Tongeren, Belgium
sometime after the revolt. Several other officers and senior centurions are mentioned in letters found at Vindolanda. A man named Priscinus may have commanded the First Tungrian Cohort, but he is sparsely mentioned. Hostilius Flavianus may have been Cerialis’ assistant, or perhaps predecessor, as several requests of leaves are addressed to him. Flavius Genialis was also a potential prefect of another cohort, but it is unknown which one.\textsuperscript{212}

Several records from lower ranking officers have been discovered as well. In letter from Curtius Super to Cassius Saecularis, Curtius is suggesting that Cassius dispatch a work detail to pick up the barley that had been ordered and delivered to Vindolanda. Other documents by Super suggest he was an \textit{aquilifer}, as he discusses finances of the legion in a personal record.\textsuperscript{213} Cassius was probably an \textit{optio}, placed in charge of requisitions for his cohort.\textsuperscript{214}

Other types of \textit{principales} existed at Vindolanda. At least one medical orderly named Marcus worked at the fortress, as a March 7\textsuperscript{th} work detail lists thirty soldiers assigned to him to help with construction of a \textit{hospitium}.\textsuperscript{215} Vindolanda also hosted a \textit{ueterinarius} (“veterinarian”) named Alio, suggesting that the fortress had a sizable animal population and possible detachment of cavalry. Alio is only ever mentioned on lists of soldiers who have debt, a curiously specific trait.\textsuperscript{216}

A strength report on the Ninth Tungrian Cohort stationed in Vindolanda is the only available strength report of \textit{cohors militaria pedata}\textsuperscript{217} found to date, making it of a unique value.\textsuperscript{218} What is most interesting about the report is not the number of soldiers stationed at Vindolanda, but rather how many have been stationed elsewhere in the province. Of the 752 total

\textsuperscript{212} Vindolanda Online – II: Introductory Chapters - Personnel
\textsuperscript{213} Vindolanda Inventory No.88.944
\textsuperscript{214} Vindolanda Inventory No.88.865
\textsuperscript{215} Vindolanda Inventory No.85.248. Despite the obvious cognate, \textit{hospitium} is a lodge, or guesthouse. It fulfilled dual functions at Roman military forts.
\textsuperscript{216} Vindolanda Inventory No.88.944
\textsuperscript{217} Auxiliary infantry unit, almost identical to a legion except for size.
\textsuperscript{218} Vindolanda Inventory No. 88.841
Tungrians, the report lists the following as absent: 46 guarding the governor; 337 at the office of Ferox at Coria; 1 centurion assigned to London; and an additional 68 soldiers absent on undisclosed assignments. In total, the Ninth Tungrian Cohort had 456 soldiers absent from Vindolanda, well over half of its strength. The relative dearth of Tungrians suggests the unit worked with the ninth Batavian cohort, known to have been stationed in the region. It appears that the two cohorts were garrisoned in Britain during an overlapping period, and possibly worked together extensively. From this it is also clear that it was typical for nearly two-thirds of the contingent at Vindolanda to be working elsewhere on any given day. Moreover, this indicates a strong social and potential economic involvement in the hinterland surrounding the fort.

Why was there a single centurion assigned to London? His name was Clodius Super and he would have either been an administrative assistant to the governor or on assignment in order to procure supplies to be transported to the fort. We can surmise this from the familiar tone in which he addresses Flavius Cerialis from London, suggesting they are of equal or approximate rank. In the same letter he refers to clothing having been received successfully, most likely a delivery of tunics to his legionaries. This type of work would have been common for a centurion in garrison and illustrates another degree of regional interconnectivity for the military.

A separate work report from Vindolanda gives us a better idea of what the average soldier may have been assigned to during peacetime. It describes the activities of 343 men during the month of April at the fort. Through the document, we know that the fort had a *fabrica* (workshop), as several soldiers were assigned to creating shoes and other simple clothing items. We can also surmise that the unit was assigned to a local quarry, as soldiers were

---

219 Ferox was most likely a legionary legate or possible a procurator and these 337 men (including two centurions) were part of the detachment assigned to him.
220 Vindolanda Inventory No.85.033
221 Vindolanda Inventory No. 195.198
assigned to the procurement and production of limestone. The other jobs mentioned include shoemakers, kiln operators, clay plasterers, and builders. An additional tablet corroborates the findings from the April report. A separate work report details the activities of three groups of men assigned to building a *hospitium* (possibly a guesthouse, or commander’s quarters), burning limestone to produce raw materials for roads, and producing clay to construct fences around the pastures.

*A legionary breaks stone at a quarry.*

---

222 Limestone was one of the primary ingredients in Roman cement.  
223 Vindolanda Inventory No. 85.248  
224 Trajan’s Column Scene 127
The April work report also lists twelve men assigned to be builders for a new bath-house, eighteen to work on lead for wagons, thirty to burn stone, 225 and nineteen to make clay for the wattle fences around the camp. 226 A wattle fence is a type of enclosure for animals made from woven sticks joined together with clay. This supports the earlier assertion that Roman army fortresses possessed their own cattle and goatherds.

The implications here are that there was a significant amount of production being undertaken by the soldiers under the auspices of “military work.” As explained earlier, although it is obvious that Roman army units fulfilled most of their basic supply and maintenance works themselves, this by no means eliminates the possibility that a civilian population could have also supported them. Military craftsmen and construction workers would have relied on both processed and raw materials, thus creating the need for a secondary group of suppliers and contractors to meet these demands. 227

One such example of this production is seen with the legions stationed around the Rhine River, who are known to have been actively producing tegulae (“roofing”) tiles for construction from the mid-first century and onwards. The XXI Rapax legion produced stamps for bricks that refer to a man named Viducius of Northern Britain, who most likely worked as a contractor for the legions’ production sites in the region. A second individual named Logus is mentioned on several stamps as well. They read “XX Valeria Victrix, made under Logus, princeps.” Logus would have been the manager (“chief” or princeps), of the XX Victrix legion’s kiln, and his title implies he is a civilian contractor. 228

---

225 This was probably referring to producing lime, for construction materials.
226 Vindolanda Inventory No.85.248
227 Evers (2011) 27-29
228 Warry (2010) 127-147
The XXI Rapax legionaries left stamps at a tegularia ("tilery") in Holt, providing further evidence of their work in local economies. 72 different types of stamps have been discovered around the legio II Augusta’s fortress in Britain as well. These stamps were used to distinguish individual cohort’s work. It is entirely logical to surmise that Viducius may have also worked closely with the Batavians and Tungrians, due to his relatively close geographic location.²²⁹

The existence of contractors also implies that the auxiliaries and legionaries supplemented their labor with civilian laborers in addition to experts. Further evidence of non-legionary stamped tiles used at Roman army fortresses suggests that this was indeed the case.²³⁰ In light of this knowledge, it appears that the Roman army would have served as an extensive source of employment for civilians in the surrounding regions. They could have found work at kilns, quarries, pastures, and a number of other sites run by the military but staffed by civilians or vice-versa.

Returning to Vindolanda, a work list from the Ninth Batavian cohort describes a number of men dispatched to work at tile kilns, with another detail assigned to collect clay for them.²³¹ From these details we can infer that the Batavians possessed a magister figlinarum ("expert tile-maker") and that he oversaw a rotation of soldiers through his workshop. Assuming that the Ninth Batavian was not unique in its composition, we could expect that a legion would have possessed one or more tile-masters and that cohorts would have rotated through their workshops to build materials for their more permanent garrisons, such as at Vindolanda.

Tegulae were manufactured by placing wet clay into a four-sided mold and then (literally) punching the clay into the corners and sides to ensure a tight seal. They were used as flat roofing on all manner of Roman buildings, including legionary and auxiliary barracks. A

²²⁹ Warry (2010) 127-147
²³⁰ Ibid. 127-147
²³¹ Vindolanda Inventory No.195.198 and No.85.248
second type of curved tile, called *imbrices*, would have been manufactured alongside the *tegulae* and placed over the gaps between tiles.  

Besides manufacturing *tegulae*, military kilns routinely produced much simpler clay bricks in massive quantities for use in the local population. The legionary base Novassium (North Westphalia, Germany), for example, only possessed a few three meter-long ovens for baking bricks. However, a cohort working at this site could have conceivably produced a million bricks in a year. Inscriptions found on bricks made by legionaries in Siscia (Sisak, Croatia) suggest a quota of 220 bricks per man, per day. Additionally, brickyards in Rome considered a quota of 200 bricks per man over the course of a 100 day work period to be average. Brick making sites were common along major rivers, and utilized these to widely distribute their product. Hundreds of bricks with a wide array of legionary stamps can be found in buildings all over Europe, and it is likely the bricks were used as an article of commerce; legionaries exchanged any surplus of bricks with civilians in exchange for any surplus of food produced in the region.

In Egypt, similar evidence supports the idea that soldiers working at production centers around quarries. A number of documents indicate that imperial supply depots existed in the eastern desert of Egypt and were administered and run by legionary *dispensatores* (“supervisors” stationed in the province. The soldiers would have employed local civilians and oversaw the procurement and transportation of supplies. These documents also give us a better indication of who was in charge of requisitioning supplies for a province. The camp prefect would have been in charge of requisitioning animals for transport and supplying the desert quarries, most likely

---

232 Warry (2010) 127-147
233 McMullen (1963) 28. North Westphalia, Germany
235 *Ibid*. 31
236 Adams (1996) discusses the involvement of imperial officials in the procurement of supplies in Egypt.
employing slaves to supplement his soldiers’ labor.²³⁷ Similarly, at Dura-Europos, two recovered military documents contain two legal rulings on commercial issues by a local tribune. The presence of the two documents demonstrates that Roman officers had a vested interest in the daily commercial activities in the lands around them.²³⁸

Archaeological evidence from the XI Victrix legion at York shows that they were heavily involved in ironworking, tile production, and intriguingly, glass production. The recovered items consist of three kilograms of pottery used as receptacles to melt glass and several blocks of semi-reacted batch materials that suggest the glass was being manufactured from scratch, on site. The fortress contained a hearth, and small trails and blobs of glass were also discovered alongside the pottery.²³⁹

Glass requires incredibly high temperatures, usually upwards of over 1,000 degrees centigrade. The glass production facility at York would have required significant amounts of fuel in order to maintain these high temperatures. The local civilian vicus (“neighborhood”) theoretically could have provided a significant workforce to acquiring this fuel, possibly in exchange for glass produced by the legionaries.²⁴⁰

Glass in antiquity was produced in a three step process. First, silica and alkali were mixed together and heated so that they could react and so gasses and impurities would be burned off. Second, the resulting mass was cooled and ground to a fine powder. Finally, it was melted, forming glass. Fortunately, it was not an exact science as numerous failed chemical batches are found at York; if it were not for these failures, no evidence of glass production would exist.²⁴¹

²³⁷ Goldsworthy, Adams (1999) 125
²³⁸ Evers (2011) 18
²³⁹ Cool, Jackson, and Monaghan (1999) 147-162
²⁴⁰ *Ibid.* 148 Fig. 1 a map of York, showing the location of civilians and the legionary fortress.
²⁴¹ Cool, Jackson, and Monaghan (1999) 155
While York is unique for the quantity of glass making products recovered, it is reasonable to conclude that fortresses elsewhere would have also participated in glass manufacture. Soldiers would have produced nearly everything required to build their fortresses on-site if they could not bring the material along when first entering a region. Glass, because of its fragility, could not be transported without breaking. To rectify this, glass was mass-produced at a few select sites throughout the empire in massive, multi-ton slabs, which were subsequently broken apart so that the shards could be transported and then re-melted by soldiers at their destination in manageable quantities.\(^\text{242}\) Inference from this evidence can lead us to the conclusion that not every Roman army unit possessed glass-making capabilities; instead, soldiers either contracted out the melting of imported glass, or used their own native kilns to quickly melt the product delivered to them.

Work reports from Vindolanda and Roman army posts from all over the empire give a look into the routine work being done by soldiers. In addition to this production, soldiers contributed significantly to local infrastructure as well. As discussed, in provinces lacking extensive civilian settlement, the Roman army took responsibility for building and maintaining roads and aqueducts.\(^\text{243}\) The Roman military bureaucracy doled out this labor to soldiers, displaying a high degree of sophistication despite the limitation of communication and transportation in the empire. The records of the administration, preserved through documents at Vindolanda and Dura-Europas give the impression that the Romans possessed sophisticated

\(^{242}\) Stern (2012) “Glass Production”
\(^{243}\) Phang (2008) 201
levels of administrative rationality, as they effectively utilized soldiers as both producers and workers.\textsuperscript{244}

To conclude, there appear to be two types of overlapping exchange working between military installations and the surrounding regions: one, consisting of mobile civilian traders working to supply the fortresses with all types of imported goods; and two, a static agricultural market working locally to produce the raw materials and food needed to meet a garrison’s basic requirements. Further, when comparing outposts such as Vindolanda and Dura-Europos, striking similarities appear in the ways in which soldiers interacted with civilians. Taken as a whole, the Roman army’s considerable consumption and production indicates that it was part of a much larger economic framework connecting civilians and soldiers all over the empire. In the next section, we will examine the finer details of these types of exchange and their social implications for the military.

\textsuperscript{244} Adams in his essay “Supplying the Roman Army: Bureaucracy in Roman Egypt” and Phang in her chapter “Labor Militaris: Work as Discipline” both express the idea that Roman military bureaucracy was quite sophisticated despite its technological limitations.
Chapter 4: Economic and Social Effects of the Legions

Roman army garrisons played a considerable economic role in the provinces. The supply and logistical network required to maintain them was intricate and integrated significantly with provincial society in a variety of ways.\(^{245}\) In Syria and Mesopotamia, for example, soldiers’ pay recycled directly into the local economies, as these regions already possessed a history of monetization and centralized government, facilitating the exchange of soldiers’ imperial coinage for goods with the local population. In contrast, in more decentralized regions such as Gaul or Britain legionaries would contribute to the local economy by acting as siphons for excess agricultural product.\(^{246}\) Over time, legionary and auxiliary fortresses would facilitate economic development in the empire by providing security, a market for excess goods and services, and the social structure for stimulating settlements to grow and prosper. In this chapter, we will examine the Roman army as a society and fixture of the economy in this context, specifically, the role of civilian traders and contractors in supporting and exchanging goods with Roman military installations.

Economic Impact of the Army on Local Populations

Evidence that corroborates the involvement of civilians in Roman army supply in an official capacity is of considerable value, as it contributes towards filling a significant gap in our knowledge. The presence of nearly 400,000 soldiers in the empire receiving a regular cash wage, including bonuses and retirement, represents an enormous infusion of money into the private sector in military zones.

\(^{245}\) Bishop ("Praesidium") and Adams ("Supplying the Roman Army") both elucidate on the idea that there was little to no standardization or centralization to the supply of the Roman military.

\(^{246}\) Pollard (2000) 182-183. Gaul is roughly geographically equivalent to modern day France.
Previous sections have discussed the broad economic effects Roman army garrisons had on the economy of the empire. This section, will inspect the multitude of civilians directly employed by the Roman army. Additionally, it will assess the third order effects the army had on the economy through civilians that were indirectly employed by the military’s presence and logistical needs.

Every legionary’s primary duty was combat. Soldier with specific skills or assignments would be designated as *immunes*, and fulfilled the multitude of logistical and support roles for the legion. These specialists were exempt from fatigue duties and day-to-day unskilled labor. However, *immunes* were fully expected to join the rest of the legion during a battle, and combat was every soldier’s primary responsibility. Because of this, the Roman army required significant logistical support in order to make up for this lack of soldiers dedicated solely towards logistics and administration. This came from slaves and civilians both directly and indirectly employed by the military, a phenomenon that had powerful effects within the local economies.

Indirectly employed by the military was a “shadow army” collectively referred to as the *lixae* (“sutlers”). This group of civilians was synonymous with any large military force, as they always followed in the shadow of a legion on the march. The baggage train of attendants, grooms, artisans, merchants, prostitutes, and slaves trailed on for miles behind legionary formations and would settle as close as possible to fortresses when not on the march. All of these may have been *lixae*, as the literary record refers to *lixae* operating in each of these capacities.

Some Roman authors maintain that they were merchants out for profit from the military, others refer to them as water carriers, cooks, state-owned slaves, or unemployed men looking for plunder behind an army. In total, there are around seventy references to *lixae* over the course of

---

247 Roth (1999) 94-106. A sutler is a civilian who primarily sells goods to the army in the field, camp, or garrison.
almost a thousand years. Taken as a whole, *lixae* appears to be a broad term applied to the unofficial civilian market that teemed on the edges of a legion’s area of operations.

*Lixae* did not provide the main source of foodstuffs and provisions to soldiers, or even a significant part. *Lixae* would sell luxury goods to soldiers that could not be normally or easily acquired from local sources. Further, they contributed significantly to the establishment of market towns and ad hoc settlements throughout the empire. During the Principate, *canabae* ("civilian settlement") commonly sprung up around legionary garrisons. One such example of this occurred in 69CE at Vetera when the commander of the legionary camp took special caution in tearing down the old legionary fortress, as “the buildings that had been erected during the long peace, had in fact grown into a town not far from the camp.” *Canabae* were also known as *vici* ("neighborhoods"), which will be discussed in the next section.

The *lixae* were legally beholden to the legionary commander in some fashion, although it is not clear exactly how or why. A plausible solution proposed by Vishnia is that *lixae* were a paramilitary force that assisted the army with collecting plunder during conquest, and served as intermediaries towards finding civilian labor in times of peace. A *lixa* could have theoretically negotiated a contract with a centurion to collect a certain amount of firewood for the cohort in exchange for cash or the right to sell luxuries to the soldiers. Another plausible scenario is that a group of *lixae* could have had an agreement with a legate to round up slaves following a conquest and assume responsibility for them until their sale. The legate in question could have taken part of the profits and then distributed them to his soldiers. This last scenario seems to be

---

249 Roth (1999) 98  
250 Modern day Birten, Germany  
251 Tac. *Histories* 4.22.1  
252 Vishnia (2002) 269
one of the most logical roles of *lixae* as there are no sources on ways and means by which the Romans assembled and handled newly acquired slaves.253 Who chained them, fed them, and took care of them during the slow march back to civilization? Soldiers could have fulfilled this to an extent, but they would have been too occupied with their duties to care for potentially thousands of slaves. There is no way to define *lixae* with certainty, as they filled a nebulous space that was intentionally fluid in its purpose. The only thing that is certain about the *lixae* is that they employed hundreds of thousands of civilians all over the empire in every manner of occupations, legal or otherwise. However, the Roman army’s relationship with legal civilian contractors has a long and almost equally sordid history as its dealings with the *lixae*.

The relationship begins with the Roman Republic, where the right to collection of public revenue was sold as a contract to the highest bidder. These contract holders were broadly known as *publicani* (“contractors”). Naturally, the winners of this contract would tend to enrich themselves with whatever profit they could. These contracts extended to public works projects, including supplies and services for the military. Groups of wealthy men could form together in a joint effort to purchase these contracts and become *societates publicanorum*, or in modern terms, firms or companies.254

These “firms,” by special legislation, possessed unique privileges under Roman law. The *socii* (“partners”) who provided the capital investment were controlled by one or more *magistri* (“masters”), usually the *manceps* (“entrepreneur”) who directly purchased the contract. By the late Republic, the firms started to act as bankers to the state and oversaw the majority of monetary transactions for the wealthy elite. Abuses became increasingly common and because of

---

253 Vishnia (2002) 270
254 Oxford Classical Dictionary: *Publicani*
the government’s heavy ties with the firms, and it became more profitable for the government to collaborate with the socii rather than to attempt to protect the citizens from financial fraud and exploitation.255

Senators were technically forbidden from participating in public contracts.256 However, a market formed for these wealthy individuals barred from direct participation, and they were able to purchase unregistered shares. In this way, famous senators like Julius Caesar and Marcus Crassus were able to substantially increase their wealth and influence and circumvent the law.257 In this light, it should be no surprise that these men would eventually be directly responsible for the slow death of the Republic.

Contracts for army supplies are first mentioned during the Second Punic War, but they had certainly existed for a substantial period before this; several prominent firms had already obtained a solid foothold in the Republic’s operation when the war began.258 It was a time of unprecedented crisis for Rome, and the Republic turned to the publicani in order to supply its armies against Hannibal. Three companies, nineteen men in total, bid on the ultro tributa (contracts for goods and services, specifically military supplies). However, their contract had exceptional conditions: the socii would be exempt from military service for the duration of the contracts and the supplies would all be publically insured once they were onboard the Roman fleet.259

The Roman Senate had no choice but to accept the contract, believing that there was no other method of obtaining supplies. Unfortunately, it would surface two years later that two of

---

255 Oxford Classical Dictionary - Publicani
256 Badian (1972) 16
257 Oxford Classical Dictionary - Publicani
258 Badian (1972) 16
259 Ibid. 17
the *socii* had defrauded the state by putting worthless goods on unseaworthy ships in order to collect the promised insurance when they inevitably sank. The Senate took no action against the two fraudulent *socii*, however, since the state had become so reliant on their contributions it could not afford to lose them for fear of losing the war.\footnote{Badian (1972) 18} The *publicani* would continue to exploit Roman citizens to varying degrees until the civil wars that resulted in the foundation of the Roman Empire brought the companies massive losses from which they would never recover. Now possessing unilateral control of Rome’s economy, Augustus institutionalized the procurement process of military supplies in the hopes to avoid the Republic’s mistakes from previous centuries.\footnote{Oxford Classical Dictionary - *Publicani*} With this in mind, it is understandable that large-scale private markets were rare in the military sector.

While there was no longer a private market for supplying the military, merchants still persisted at a provincial and local level. Evidence of such logistical middlemen can be seen at Vindolanda. The barracks naturally has yielded the most useful data for this paper. Some noteworthy items include several *ballistae* (“catapult”)\footnote{Less “rock throwing” type of catapult, and more “giant crossbow.”} bolts found among a trash pile and a wood scrap with the first line of Virgil’s *Aeneid* repeated several times. The bolts are significant as before Vindolanda’s excavation it was thought that only legionary units used *ballistae*. The lines of the *Aeneid* are notable as they were probably written by soldiers who were learning how to read and write. While not earth shattering, it is exciting to see that there may have been an organized effort to educate soldiers.\footnote{Birley (2012) 52-55} More importantly, numerous documents detailing a thriving civil-military market were found, supporting the idea that Roman military garrisons were deeply rooted in local economies.
To start, the first document we will examine is a letter between two unnamed brothers and their father. The writer refers to himself as a *hominem transmarinum* (“man from across the sea”) and makes an effort to distinguish himself from the locals. Additionally, the letter references transactions made between a *beneficiarius* and a group of legionaries. The account itself does not reference any monetary exchange, suggesting that they may have been working contractually with the garrison to requisition supplies. The merchants or contractors were clearly civilians involved in the supply of the Vindolanda garrison. The letter was found in the officers’ quarters, further corroborating this idea. Two soldiers named Spectatus and Firmus are addressed in the letter and are most likely two *optiones* in charge of the grain supply for the auxiliaries. 264

The assertion that the document was meant for *optiones* is further supported by the fact that the letter is dated in September, approximately close to harvest time. The total amount of grain and foodstuffs referenced is approximately 320 *modii*. Using Roth’s previous calculations, an active soldier would require approximately \(\frac{1}{7}\)th of a *modius* of grain per day. The letter in question therefore represents one day’s supply of grain for two auxiliary cohorts (~2000 men) and the acquisition of local grain falls well within an *optio’s* duties. This estimation is consistent with the previously established units at the fortress, the Tungrian and Batavian cohorts, who would have been at approximately 1000 strength each.

Whoever the merchants or contractors were, they were clearly civilians involved in the supply of the Vindolanda garrison. 265 Another intriguing part of the letter is its dispensation of eleven *modii* of grain to a group of legionary soldiers at Vindolanda “on the orders of Firmus.” The amount of grain issued would have been enough for a century’s daily supply (80 men). They

---

264 Vindolanda Inventory No.88.943
265 Vindolanda Inventory No.88.943
were probably part of an advance party from a legion in route to Hadrian’s Wall, which was only a mile north of Vindolanda.\textsuperscript{266}

Another document found in the same location, presumably written by the same individual,\textsuperscript{267} has many more references to large quantities of supplies and money. The writer, now referring to himself as Octavius, asks a man named Candidus for 500 *denarii* in addition to his own investment of 300 *denarii* — at this time and place, 300 *denarii* was a year’s pay for a common soldier, so we are immediately certain that this is not a trivial investment. With this money, Octavius discusses his plans regarding the sale of 5000 *modii* of cereal, 170 tanned hides, and 119 *modii* of thresher wheat. An order of this size cannot possibly been destined for a market other than the military, especially this close to Hadrian’s Wall and a sizable auxiliary garrison. The sinew would have been used in constructing the firing mechanisms in *ballistae* and the hides be used to build tents. It cannot be known with certainty, but is possible that Firmus’ legionaries mentioned in the previous document were a detachment of *frumentarii* sent to escort the supplies to Hadrian’s Wall for construction.

In the same letter, Octavius mentions that the hides are awaiting transport at Cataractonium, a fortress to the south of Vindolanda. The soldiers at Cataractonium operated a large tannery and so it appears that Octavius may have been hired as an intermediary between the two installations. He likely bought the cereal from local sources and consolidated them for the *optiones* of Vindolanda, or legionaries at Hadrian’s Wall.\textsuperscript{268} The presence of such a large operation provides strong evidence that a civilian market was operating in and around the fortress. The sophistication of the agreement also implies that this practice was institutionalized,

\textsuperscript{266} Birley (2012) 54–55
\textsuperscript{267} The scholars at Vindolanda state that the handwriting is nearly identical and so, because of the close proximity to the other letter, it was almost certainly written by the same individual as No.88.943.
\textsuperscript{268} Vindolanda Inventory No.88.946
perhaps under some contract with the provincial government. Another personal account of Octavius shows that he was also involved in small sales to various soldiers around the fortress; it is possible he ran a small shop or procurement service. The following list is a translation and general recreation of the wooden tablet written by Octavius:

<table>
<thead>
<tr>
<th></th>
<th>denarii</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Candidus</strong></td>
<td>2</td>
</tr>
<tr>
<td>· For timbers purchased</td>
<td>7</td>
</tr>
<tr>
<td>· A tunic</td>
<td>3</td>
</tr>
<tr>
<td><strong>From Tetricus</strong></td>
<td></td>
</tr>
<tr>
<td><strong>From Primus</strong></td>
<td>2 ½</td>
</tr>
<tr>
<td><strong>From Alio, the veterinary doctor</strong></td>
<td>10</td>
</tr>
<tr>
<td><strong>From Vitalis, the bath orderly</strong></td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>34 ½</td>
</tr>
</tbody>
</table>

- The rest owe:
  - Ingenuus                            | denarii 7 |
  - Acranius                            | denarii 3 |
  - the Vardullian cavalrymen           | denarii 7 |
  - The tent-companion of Tagamatis, the aquilifer | denarii 3 |
  **Total**:                            | denarii 20 |

Some items to note here are the presence of the Vardullian cavalryman and the use of contubernalis (“tent-companion”) instead of a soldier’s name. The Vardullian was a member of the first cohort Fida Vardullorum out of Spain. What he was doing in Vindolanda is unknown. It is possible he was on a special assignment to bolster the cavalry presence. Another possibility is that he was merely staying over in Vindolanda for a short period, as it was located near a major road. The use of contubernalis is likely in reference to Tagamatis’ wife. Roman soldiers were not permitted to marry, so in order to skirt around the delicate situation this was a common idiom for

---

269 Vindolanda Inventory No.88.944
wife used by Roman soldiers on official documents.\textsuperscript{270} The significance of the presence of civilians within the fortress itself will be addressed in the next section.

Octavius provides important information towards the argument that civilian traders and merchants operated extensively around cities and military sites. In the letter by Octavius that discusses Cataractonium and the hides, he appeals to Candidus to send money so that he may resume threshing wheat as he only produced 119 \textit{modii} and needs to sell more. However, he is not discussing these items as if he was going to personally oversee their production; rather it appears that the wheat and hides were merely one aspect of a larger business run by Octavius. We know this because in the same letter, he mentions the sale of sinew and tanning of leather - activities that were an entirely different field of production.\textsuperscript{271}

In the same letter, Octavius discusses a sale that did not go through with another customer, saying that “\textit{a contubernalis} of our friend Frontius has been here. He was wanting me to allocate him hides and that being so, was ready to give cash. I told him I would give him the hides by 1\textsuperscript{st} March. He decided that he would come 13\textsuperscript{th} January. He did not turn up nor did he take any trouble to obtain them since he had hides. If he had given the case, I would have given him them.”\textsuperscript{272} This demonstrates two things. First, that Roman civilians were capable of, and regularly engaged in, business agreements and contracts. Second, their dealings were in the interest of profit, and not due to social obligations. If the failed exchange had been motivated by factors other than profit, the \textit{contubernalis} would not have backed out on his word to Octavius,

\textsuperscript{270} Birley (2012) 53-55
\textsuperscript{271} Evers (2011) 17
\textsuperscript{272} Vindolanda Inventory No.88.946
for fear of losing his reputation. The casual tone of the letter implies this was just another business day for Octavius.²⁷³

Another debt-list similar to the one written by Octavius identifies other potential business transactions between civilians and the soldiers at Vindolanda. The list has two columns of names and items in parallel with cash values by each. Some items appear to be crossed out, possibly indicating that individuals had paid off their debt. The list is very specific and contains a wide variety of items, including 45 pounds of bacon and a horse. A wide range of individuals purchased items from the person keeping this list, including a centurion, Atrectus the brewer, a bugle caller for a century, as well as regular soldiers and civilians. Because there are officers, civilians, and regular soldiers on the list it is likely it is from a civilian trader who operated out of a local market that served the fort and the surrounding town.²⁷⁴

Other documents found in the officers’ quarters at Vindolanda add to the theory about contracted traders involved in the acquisition of supplies. In one, 100 nails, 85 pounds of salt, 11 pounds of salt-pork, and indeterminate amounts of Celtic beer and goat meat, are compiled on a list with corresponding prices and names of individuals that the goods from whom the goods were purchased. In the context of the other documents found at this site it seems likely that this was a list being kept by possibly the same optio that Octavius had been dealing with. At the very least, it is a well-documented account from someone in charge of requisitioning supplies, potentially written by a slave or attendant of an optio or centurion.²⁷⁵ The Celtic beer is of special interest on the list and suggests that the auxiliaries operated a small brewery or worked closely

²⁷³ Evers (2011) 17
²⁷⁴ Vindolanda Inventory No.88.947
²⁷⁵ Vindolanda Inventory No.87.567
with locals to brew the alcohol. A separate tablet mentions a soldier named “Atrectus, the brewer,” supporting this theory.\textsuperscript{276}

A final piece of evidence for local civilian contractors working at Vindolanda is an inventory of wagon pieces being dispatched to the fortress. Written by a man named Metto to Advectus, the inventory lists 300 planks, 26 seats, 29 benches, and various other wagon parts being relayed to Vindolanda. Of considerable interest is the line “I have sent you wooden materials through the agency of Saco,” as it shows that there is a third individual involved in the process.\textsuperscript{277} Saco is either an optio, or more likely, a civilian trader like Octavius who has been contracted to organize the movement of supplies to Vindolanda.

Evidence for exchange at the imperial economic level between provinces is sparse at Vindolanda. However, a few documents do include entries about wine, olives, olive oil, fish-sauce, and pepper – all items were which were clearly not from Britain. Instead, they must have been imported from warmer provinces to the south. One document specifically mentions “Massic wine,” which is in reference to the Rhone Valley in Campania, where there many vineyards around Mount Massicus in modern day France.\textsuperscript{278}

Although it is impossible to be certain, the body of evidence provided at Vindolanda strongly indicates that there was a sizable civilian market economy operating in the region around the fortress. Additionally, letters recovered from the officers’ quarters and surrounding buildings suggests that a number of civilian traders were employed by the auxiliary garrison as intermediaries charged with acquiring supplies from the surrounding country and towns. Further, supply links with other garrisons throughout the region with special capabilities, such as leather

\textsuperscript{276} Vindolanda Inventory No.88.947
\textsuperscript{277} Vindolanda Inventory No. 85.051
\textsuperscript{278} Evers (2011) 45
making, indicate that Vindolanda was part of a larger network that incorporated an array of
civilian and military personnel. In no way should it be considered exceptional in this, however.
The fortress at Vindolanda instead serves as a remarkable source of data to support the argument
that Roman military installations formed the heart of a complex economic system that
incorporated civilians both locally and regionally. To conclude, the following map of
Vindolanda’s external economic links is a final piece of evidence.\textsuperscript{279}

\begin{center}
\includegraphics[width=\textwidth]{vindolanda_map.png}
\end{center}

\textit{In this map, we can see just how far-reaching the economic footprint of even a small
garrison like Vindolanda could be.}

\textsuperscript{279} Evers (2011) 46 fig 4.
The *Vici*: Civilian Towns around Fortresses

In this section, the social dynamics of Roman soldiers and civilians will be examined in detail. With the relative peace of the Principate, the Roman army’s mission was changing from conquest to defense and stability operations. As a result, soldiers and fortress started to become permanent fixtures in regions, and the local population began to adapt in change in response. In order to better understand the Roman army as an institution and assess its impacts on the world around it, it is important to appreciate it as a community. One that was every bit as part of the fabric of the empire as the civilians it protected.

The purpose of this section is to demonstrate how closely intertwined civilians and soldiers were during the Principate. This is important to the overall discussion, as it will illustrate that they economic transactions discussed previously did not occur in a vacuum and that significant civil-military interaction occurred at all levels of society. Soldiers lived, married, and died alongside civilians, and were an integral part of the economy because of this. Additionally, the social dynamics of the Roman army should not be ignored, especially after our thorough analysis up until this point. This final section will seek to illuminate the Roman soldiers as individuals who were part of a living, breathing economy, and not rigid, formal data points to be picked apart.

Next to virtually every Roman army fortress that housed a decent-sized, independent garrison was a *vicus* (“neighborhood”). *Vici* were ad-hoc settlements that grew up around legionary and auxiliary bases across the empire. They came in all sizes, shapes, and forms, and were founded when the camp followers and soldiers’ families would take root wherever “their”
soldiers were garrisoned. Evidence for the layout and orientation of vici is taken from the fortresses at Zugmantel, Butzback, Carlisle, Chesterholm, and Trawscoed.

Topographic examinations of legionary and auxiliary garrisons show that every fortress and its surrounding vicus shared a common orientation towards regional and local roads, making them interdependent along the primary thoroughfares. In a study by Sommer, three basic types of vici emerged:

1. The vicus is oriented along a ribbon-like road leading directly through the fort with civilian houses on both sides of the road. A minimum distance is kept between the fortress walls and houses by ditches.

2. The fortress sits on a promontory or hill situated above the vicus, and no main road leads directly to the main fortress gates. Houses are a considerable distance away from the walls compared to type 1.

3. The vicus is arranged in a ring around the fortress, with a circular road connecting all of the homes and garrison together. Other roads lead to the front gates and to the larger regional connections. This is the most spread out of the three types.

The three types never appeared in their “pure” form, however, and vici usually were laid out in a way that combined elements of two or more types. A secondary trend emerges amongst vici, as streets further away from the main roads begin to take on a grid-like appearance. This suggests that vici may have started organically around fortresses, with later additions being

---

280 Sommer (1997) 81
281 Ibid. 83. All of these fortresses are located in SW Germany.
282 Ibid. 81-82
283 Ibid. 86
planned out as the ad-hoc settlement’s population grew. The following topographical map shows aspects of all three types of *vici* around the fortress at Zugmantel.\(^{284}\)

*A map of the fortress at Zugmantel, with the triangular market clearly visible in the middle.\(^{285}\)*

Evidence that might points us towards the identity of the individuals responsible for planning and building the *vici* is nonexistent. Positioning of buildings within the fortresses, such as the baths and housing, follow a clear pattern and every fortress seems to be built off the same standardized template. *Vici* likely did not have similar regulations. Instead, the local commander was likely given the freedom to assess the topographical variables and practicability in designing additions to the *vici*.\(^{286}\)

---

\(^{284}\) Sommer (1997) 84  
\(^{285}\) Image taken from Sommer (2005) 84 Figure 4  
\(^{286}\) *Ibid.* 86
As discussed in *Supply*, military fortresses were oriented as close to the *via principalis* (“main route”) as strategically possible in order to ensure a steady and easy flow of supplies. Consequently, examinations of civilian sites around fortresses demonstrate that *vici* tended to be also oriented towards the main logistical arteries.\(^{287}\) This follows logically, as one can assume civilian settlements would have naturally gravitated towards the main roads, just as a flower turns itself towards the sun to maximize its nutrient intake.

The layout of *vici* around military sites also suggests that consideration was taken before the construction of a fortress as to where civilians would be located. Cemeteries are placed at a considerable distance away from any military installations in a way that provided adequate room for *vici* to expand.\(^{288}\) However, this could have been a secondary effect from legionaries’ natural human tendency to wish to separate themselves from the dead. A counterpoint to this would be that in Sommer’s extensive excavations and surveys, no *vicus* was ever recorded overtaking a cemetery, but in a few instances, a cemetery was expanded into a *vicus*.\(^{289}\) This suggests that there may have been a concerted effort to plan the locations of both *vici* and cemeteries.

In addition to planning around cemeteries, a number of *vici* were laid out in a way that allowed for the expansion of local roads. At the fortresses of Zugmantel, Saalburg, and Heddernheim, for instance, the widening was done in such a way that a triangular space was formed, presumably for a market. At Ladenburg and Saalburg, there is evidence of construction of a market square directly outside the main gates of the fortresses. The archaeological record also suggests that these “market squares” were formed during the same phase of construction as

\(^{287}\) Sommer (1997) 86
\(^{288}\) *Ibid*. 86
\(^{289}\) *Ibid*. 87
the fortress, suggesting they were part of the original construction “blueprints.” Referring to the map of Zugmantel, the triangular market is clear in the center of the map, directly to the right of the rectangular fortress.

The fortress at Saalburg, note the distinct grid pattern emanating out from the main roads. This topographical analysis supports earlier hypotheses that civilian traders worked directly and intimately with local garrisons. It is reasonable to believe that soldiers would have left their fortresses to purchase goods at the local markets, or to simply relax and integrate with civilians. It is important to note that the vast majority of a Roman soldier’s time was not spent

290 Sommer (1997) 84-87
291 Image taken from Sommer (1997) 85 Figure 5
fighting, and so many fortresses were not held at “high-alert” as to prevent any leisure activities. We know this from the abundance of soldiers’ pay-records that show portions of their *stipendia* were withheld for festivals, banquets, and religious observances.\(^{292}\)

As to who constructed the houses, the evidence varies from *vicus* to *vicus*. A number of regular patterns emerge in civilian houses, but this could have been the result of shared culture and geographical origins rather than a concerted effort to construct “military” housing. Nonetheless, the common features do illustrate that these homes were built in an orderly fashion and not by squatters hoping to profit off the local military installation. Porticoes of the same general style and orientation appear in almost all houses found in *vici*, and boundaries between homes seem to have been well respected. That is to say that clear demarcation, either in the form of a wall or a simple “property” line, is present between almost all civilian homes. Within these established boundaries, many private buildings are found, including food storage cellars and latrines.\(^{293}\) With this knowledge, one could hypothesize that military *vici* took on the appearance of a miniaturized suburban neighborhood today, with small front yards, porches, and wooden fences between the homes.

The irregularities in plot size and home construction suggest that the military did not have a hand in building *vici* directly. The variety in housing construction would indicate that individual homeowners or families built the houses themselves. It is possible that soldiers had a hand in assisting with the construction through manual labor or producing the materials, but the planning and design is clearly not standardized, again suggesting that it was based upon individual initiative.\(^ {294}\) If this was indeed the case, then the inclusion of future *vici* into military...

---

\(^{292}\) Le Bohec (1994) 231-253  
\(^{293}\) Sommer (1997) 88  
\(^{294}\) *Ibid* 85-89
surveys prior to fortress construction would indicate that vici were widespread enough that commanders expected them to emerge over time; meaning that they would have set aside a certain plot of land in anticipation of a civilian presence emerging alongside the military installation.

A final and hugely important fact that has not been considered is the evidence that suggests that in the majority of cases, no civilians were present in the areas around military fortresses before the arrival of the military. Sommer notes that the only exceptions to this rule are the presence of local tribes in parts of the Upper Rhine Valley, such as the Suebi Nicrenses, who existed before the Roman army’s presence. Nevertheless, these people had been placed there by the government at an earlier date, so the exception is minor. The implications of this are significant for this study. If Roman commanders did actually plan ahead of time for a civilian presence to emerge, including setting aside space for a civilian market, than it stands to reason that they would have also anticipated a portion of their supply needs to have been met by the vici. This supports earlier assertions in by Consumption, Production, and Supply as it clearly ties soldiers and civilians together in a determined effort by both parties to coexist socially and economically.

---

295 Sommer (1997) 91-92
**Conclusion:**

The Roman army was one of the most effective militaries in history. It stood as the preeminent power in the Mediterranean for almost a thousand years; first under the Roman Republic, and then reborn under the Roman Empire. The Roman army’s professionalism, tactics, and sophisticated bureaucratic system insured that it was always two steps ahead of the enemies of Rome. It is a fascinating and terrifying organization that has been the subject of countless studies, but it is still an organization we know very little about.

This study sought to analyze the Roman army of the Principate and assess its social and economic impacts. While it is by no means comprehensive, it brings together a vast array of literary, epigraphical, archaeological, and topographical sources in order to best discern who the soldiers of the Roman army were, what they did, and how they affected the development of the Roman Empire.

In *Chapter 1: Historical Background*, readers were taken on a brief overview of the history of the Roman Republic and how it eventually collapsed to form the Roman Empire. In addition, the history of the Roman Army was examined in order to contextualize its development during the Principate. The purpose of this chapter was to provide readers with a baseline set of knowledge on the history of the Roman Empire so they could engage in the discussion without feeling out of their depth.

In *Chapter 2: Structure of the Roman Army*, the study examined the Roman army in depth and laid out what made the legionaries and auxiliaries great. In *Senatorial and Equestrian Officers*, the highest-ranking officers of the Roman army were detailed, as well as discussing their distinct social status amongst their fellow citizens. In *Enlisted Ranks – Centurion Positions*
and Below, the heart of the Roman army was surveyed in depth in order to establish a baseline set of knowledge for the reader moving into the core of the discussion. In *Centurions*, the most important members of the Roman army, the centurions, were discussed and it was explained how these expert veterans formed the backbone of the Roman army. In *Monetization, Pay, and the Positions of Roman Soldiers in the Economy*, the discussion of the Roman army’s impact on the economy began in earnest and the inimitable role of soldiers in spreading Roman currency and culture was laid out. Then, in *Demographics*, the role of the Roman soldier in society was examined and we considered what the average life of a Roman soldier would have been like. Finally, in *Retirement and other Benefits*, the role of the Roman soldier after his service was completed was briefly examined.

In *Chapter 3: Consumption and Production in the Roman Army*, the specific formal and informal economic organizations that existed in the Roman army to pay, feed, and supply its soldiers. Further, it argued that the Roman military operated an extensive production base that both facilitated economic transactions between civil-military institutions, and worked to rectify the issue of self-sufficiency for units located away from main avenues of supply. In *Hungry, Hungry Legion: Consumption*, the precise food and supply needs of Roman soldiers was laid out in exhaustive detail, as well as the impact that these needs had on the economy of the Empire. Then, in *The State Tries to Meet the Challenge: Supply*, the “bigger picture” of the logistical network that made it possible for the Roman army to operate as a unified force across the Mediterranean and in the far-flung provinces of Europe was scrutinized. Finally, in *The Army Gives Back: Production*, the study examined how legionary and auxiliary soldiers worked and produced for their local communities and demonstrated how the legions were in fact an integral economic aspect of their province.
In Chapter 4: Economic and Social Effects, legionary and auxiliary fortresses facilitation of economic development in the empire by providing security, a market for excess goods and services, and a social structure for stimulating settlements to grow and prosper was examined. It argued for the Roman army as a society and fixture of the economy in this context, specifically, the role of civilian traders and contractors in supporting and exchanging goods with Roman military installations. In Economic Impact on Local Populations, evidence from Vindolanda and other military installations was used to inspect the multitude of civilians directly employed by the Roman army. Additionally, it assessed the third order effects the army had on the economy through civilians that were indirectly employed by the military’s presence and logistical needs. Finally, in The Vici: Civilian Towns and Fortresses, it was demonstrated how closely intertwined civilians and soldiers were during the Principate, and illuminated how the Roman soldiers were individuals part of a living, breathing economy, that brought about significant social and economic change across the Empire.

The purpose of this thesis was to provide a holistic perspective on the Roman army and its role within the greater social and economic fabric of the Empire. Ultimately, it argued that the Roman army’s unique structure and organization allowed it to impact the Imperial economy at every level of society and provide the stability and support necessary to facilitate an era of unprecedented peace and prosperity in the Mediterranean. I hope that by reading this, you have gained a much deeper and greater appreciation of the Roman army and the pivotal role it played in the history of Rome and its people.
- **Glossary:**
  - *Aerarium Militare*: Pension established by Augustus for legionaries.
  - Agrippa: (63 BCE – 12CE) Augustus’ primary lieutenant and close friend, general during the Roman Civil Wars.
  - Alexandria: Capital of the Roman-Egyptian province, source of a huge quantity of grain.
  - *Amphorae*: Pottery used to ship and store various goods in the Roman Empire.
  - *Annals*: Historical account by Tacitus of Roman emperors from Tiberius to Nero, 14 – 68 AD.
  - Aquilifer: “Eagle-bearer” who carried the legionary standard into battle, very highly regarded, also in charge of legionary pay-chest.
  - *As*: Denomination of Roman currency, made of bronze, worth 1/16th of a *denarius*.
  - *Aurei*: Denomination of Roman currency, made of gold, worth 25 *denarii* or 400 *asses*.
  - Auxiliary: Second corps of the Roman army made up of local non-citizens, made up the bulk of the Roman army’s cavalry and ranged troops.
  - *Ballistae*: Catapult used by the Roman army, could shoot iron bolts or stones.
  - Batavian: Type of auxiliary soldier at the Vindolanda fortress from northern France/Belgium.
  - *Beneficiarii*: “Privileged Ones,” special soldiers in the Roman army that fulfilled a wide variety of roles, from acquiring supplies to policing cities.
  - Carthage: Nation destroyed by Rome during the Punic Wars from 264 BCE to 146 BCE.
  - Castella: “Fortress,” built by Roman soldiers as static defenses on the frontiers.
  - *Centisema Rerum Venalium*: One percent tax on auctions, used to fund military pension.
  - Centuriae: Sometimes used to refer to auxiliary infantry units. *Pedata* is used interchangeably.
  - *Cibaria*: “Provisions,” issued to Roman soldiers as part of their regular meal rations.
  - Cibus Castrensis: The basic food groups the Roman army deemed necessary for a basic soldier’s diet.
  - Cicero: (107 BCE – 44 BCE) A Roman senator during the Civil Wars that advocated for Augustus but was later killed in the Second Triumvirate proscriptions.
  - Cleopatra: (70 BCE – 30 BCE) Last queen of Egypt, former lover of Julius Caesar who fell in love with Mark Antony and sided with him during the Civil Wars.
  - *Coloniae*: Civilian colony established in conquered lands, sometimes formed around military installations.
  - *Contubernii*: “Tent-unit” of 8-10 men, basic fighting element of the Roman army.
  - Crassus: (115 BCE – 53 BCE) Incredibly rich senator of the Roman Republic, founding member of the First Triumvirate, killed by Parthians by having molten gold poured down his throat.
  - Crisis of the Third Century: (235 CE – 284 CE) Period of immense turmoil where the Roman empire nearly collapsed due to military anarchy, plague, economic depression, and invasions from outsiders.
  - *Cursus Publicus*: “Public Way,” road network that connected the provinces of the Roman Empire.
  - *Custos Armorum*: “Arms Master,” soldier who was in charge of his unit’s weapons and armor.
  - Danube: Large river in northern Europe, served as the primary northern border of the Roman Empire.
- **Decanus:** “Tent Commander,” soldier in charge of a *contubernalis*.
- **Dilectus:** “Draft,” military conscriptions held by emperors in times of crisis.
- **Denarius:** Unit of currency in Roman Empire, made of silver, worth 16 *asses* or 4 *sesterces*
- **Diploma:** Bronze tablet that served as proof of citizenship for discharged auxiliary troops.
- Disaster at Teutoburg Forest: Battle in 9 AD where general Varus led three legions into the Teutoburg forest and was ambushed by Germanic tribesman, resulting in the destruction of all three legions and Varus’ death.
- **Dispensatores:** “Managers,” soldiers who oversaw mining and other production operations.
- **Dominate:** (284 CE – 476 CE) “Despotic” later form of government in Roman Empire where all pretensions of Senate or democratic control were abolished in favor of absolute monarchy.
- **Duro-Europos:** Legionary base/colony in Syria.
- **Evocatus:** Roman soldier who had served out his time but would remain on inactive reserve for four years.
- **Fabricae:** “Workshop,” run by Roman soldiers to produce weapons and other goods.
- **Figlinae:** “Pottery Workshop,” run by Roman soldiers to produce tiles and bricks.
- First Triumvirate: (59 BCE – 53 BCE) Junta founded by Julius Caesar, Marcus Crassus, and Gnaeus Pompey to acquire power and influence during the Roman Republic.
- **Florus:** (74 CE – 130 CE) Roman historian who lived during the reign of the emperors Trajan and Hadrian, wrote “Epitome of Roman History.”
- **Frumentarii:** “Wheat Collectors,” of the Roman army in charge of obtaining grain supplies, among other logistical responsibilities.
- **Gladius:** Sword used by the Roman legionaries, later replaced by
- **Gracchi:** (Gaius: 154 BCE – 121 BCE, Tiberius 169 BCE – 133 BCE) Brothers in the Roman Republic who attempted to reform the agricultural economy of the Republic, killed for their efforts.
- **Hadrian’s Wall:** Wall in Northern Britain built to separate Roman controlled Britain from the “untamed” north.
- **Hominem Transmarinum:** “Man from Across the Sea,” non-insulting euphemism for foreigners used by Romans.
- **Horrea:** “Barns,” used to stored supplies by Roman soldiers.
- **Hospitium:** “Lodging,” used as generic housing by soldiers, could include medical facilities.
- **Immunes:** “Exempts,” Special class of Roman soldier who fulfilled specialized roles and did not have to participate in manual labor and camp duties.
- Julius Caesar: (100 BCE – 44 BCE) Roman general, overthrew the Roman Republic, started the Roman Civil Wars, was named dictator-for-life and killed in 44 BC by a conspiracy of senators.
- **Lambaesis:** Military base in Algeria.
- **Legatus Legionis** (Legate): The overall legion commander. The post was usually filled by a senator, appointed by the emperor, who held command for 3 or 4 years, although he could serve for a much longer period. In a Roman province with only one legion, the legatus was also the provincial governor.
- **Prata**: Land designated for military use.
- **Primus Pilus**: “First Spear,” the highest ranking enlisted soldier in a legion.
- **Princeps**: “first in time or order; the first, chief, the most eminent, distinguished, or noble; the first man, first person,” the true title of Roman emperors - see below for list of emperors in order:
  - Augustus 27 BCE – 14 CE
  - Tiberius 14 - 37
  - Caligula 37- 41
  - Claudius 41-54
  - Nero 54-68
  - Galba 68-69
  - Otho 69
  - Vitellius 69-79
  - Titus 79-81
  - Domitian 81-96
  - Nerva 96-98
  - Trajan 98-117
  - Hadrian 117-138
  - Antonius 138-161
  - Verus 161-169 (co-ruled with Aurelius)
  - Aurelius 161-180 (co-ruled with Verus)
  - Commodus 180-192
  - Pertinax 193
  - Julianus 193 (co-ruled with Severus)
  - Severus 193-211 (co-ruled with Julianus)
  - Caracalla 211-217
  - Macrinus 217-218
  - Elagabalus 218-222
  - Severus Alexander 222-235
  - *This period was then followed by decades of civil war, the Crisis of the Third Century began in 234-235.*
- **Principales**: Soldiers who formed the administrative part of legion, they were paid 1.5 to 3 times the normal amount for their skills.
- **Principate**: (27 BCE – 284 CE approximately) Period of the Roman Empire characterized by cooperation between a princeps and Senate; emperors worked to preserve the illusion that the Empire was a continuation of the Republic.
- **Probatio**: Trial period used to assess new recruits for the Roman army.
- **Procurator**: Treasury officer in the Roman army or Imperial administration.
- **Publicani**: “Contractors,” used by the Roman Republic to acquire supplies and collect public revenue and taxes.
- **Quingenaria**: Name used to designate auxiliary units before their size was increased from 500 to 1,000 strong.
- **Rhine**: Major river that runs through Germany.
- **Roman Mile**: 1,481 meters, or roughly 1,000 paces, counting on the left foot.
- **Roman Republic**: (509 BCE – 27 BCE) the period of ancient Roman civilization beginning with the overthrow of the Roman Kingdom, traditionally dated to 509 BC, and ending in 27 BC with the establishment of the Roman Empire.

- **Sacramentum**: Roman law and traditional vow that swore a soldier’s allegiance to the emperor.

- **Scutum**: A legionary’s shield, typically rectangular and about one meter in height and weighing 10 kilograms.

- **Second Triumvirate**: (43 BCE – 33 BCE) Official alliance of Octavian (Augustus), Antony, and Lepidus that fractured quickly when the Roman Civil War resumed fighting.

- **Sesterces**: denomination of Roman currency, large and made of brass, worth ¼ a *denarius*.

- **Signaculum**: Bronze tablet worn around a soldier’s neck to identify them, similar to modern day dog tags.

- **Signifer**: “Standard Bearer,” also known as a *vexillarius*, the soldier who carried his units flag or symbol into battle.

- **Societates Publicanarum**: A collection of businessmen who pooled funds to buy contracts for collecting taxes, military supplies, and other forms of public revenue.

- **Spatha**: Sword used by cavalrymen in the Roman Empire, longer than a *gladius*.

- **Stipendia**: payment given to soldiers in three annual installments.

- **Sulla**: (138 BCE – 78 BCE) Roman general and statesmen who attempted to reform the Republic, defeated Marius.

- **Tacitus**: Historian and senator of the Roman Empire who wrote *Annals* and *Histories*.

- **Tegularia**: “Tile workshop,” place where soldiers and civilians would work on pottery and tiles.

- **Tesserarius**: “Officer of the watch,” the soldier assigned to organize guard duty for camps, fortresses, and cities.

- **Tribuni Angusticlavii**: “Narrow-striped tribunes,” each legion had five lower ranking tribunes, who were normally from the equestrian class and had at least some years of prior military experience. They often served the role of administrative officers.

- **Tribunus Laticlavus**: “Broad-striped tribunes,” appointed by the emperor or the Senate, generally quite young and less experienced than the *tribuni angusticlavii*, he served as second in command of the legion, behind the legate. Because of his age and inexperience, he was not the actual second in command in battle, but if the legate died, he would take command of the legion. This *tribunate* was often a first, but optional, step in a young man's senatorial career.

- **Tungrian**: Tribe from modern-day Belgium, served at Vindolanda.

- **Turma**: A cavalry detachment.

- **Vegetius**: (unknown, 4th century) Roman Author, well known for his comedies and *De Rei Militari* and military manual.

- **Vicesima Hereditatum**: Five percent tax on inheritances, used to fund military pension.

- **Vici**: Second name for settlements that sprung up around legionary fortresses.

- **Vindolanda**: Auxiliary fortress one mile south of Hadrian’s Wall.

- **Vindonissa**: Legionary Fortress in modern-day Switzerland.
BIBLIOGRAPHY

Primary Sources:


Secondary Sources:


Scheidel, W. *Measuring Sex, Age and Death in the Roman Empire: Explorations in Ancient Demography*. Ann Arbor, MI: Journal of Roman Archaeology, 1996.


**Websites:**

http://vindolanda.csad.ox.ac.uk/

http://media.artgallery.yale.edu/duraeuropos/dura.html

http://www.trajans-column.org/