A Soldier in the Dark
Navigating Gaul through the Eyes of Caesar and His Men

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Introduction

Oftentimes, the most lasting evidence left behind by an expedition of monumental size is not physical, but literary. Such is the case with Julius Caesar’s *Commentarii de Bello Gallico*. Caesar’s account of the Gallic Wars is by far the most well-known and widely read version of the Gallic conflict, giving us a clearer understanding of the battlefield tactics and campaign strategies Caesar employed while fighting in Gaul than we can glean from other references in literature (e.g. Cassius Dio, Plutarch, and Velleius Paterculus) or the archaeological record alone. However, physical evidence cannot be considered any less important. Remains of weapons, banners, horns, and camp items have all been found from various battle sites along the path Caesar cut through Gaul, and these items help those interested in visualizing the campaigns in their heads. Furthermore, from physical remains, reconstructions can be created, either rudimentary or more polished. Film is perhaps the most familiar and gripping of the media for visualizing the physical and emotional reality of ancient warfare, as it relates what we can see and feel with our physical senses to what we can imagine with our minds.

And yet, beyond film there is a platform that combines both literary and physical evidence. This is hyper-reality, the recreation of the physical world that places the learner inside the subject of study and immerses them not only through the compelling cinematography found in film, but also gives them choice, which is totally unique to
hyper-reality. Choice is what truly allows for analytical participation on the part of the learner and teaches through first-hand experience, rather than second-hand. It allows the learner not only to view the chain of events that led to an outcome such as the initial pacification of Gaul by the Romans in 52 BCE, but to also enact it, albeit in a simplified form. Instead of readers or viewers, learners can become players and conquerors or the vanquished. Delivering this choice to the learner is the one of the truest aims of this thesis.

This concept can be connected with the idea of ‘Meaningful Play’, explained in Salen and Zimmerman's Rules of Play. As they point out, “The goal of successful game design is the creation of meaningful play,” (Salen and Zimmerman, 33). What this essentially means is that if a game is worth playing and not frivolous with respect to the function of learning, it must be able to deliver some sort of meaning that connects with the player’s intelligence. The question now is how we derive meaning from a game. Salen and Zimmerman address this by breaking down meaning into two separate, but equally necessary parts. The first is discernibility. This means that the player is able to see and recognize what they need to do to play and win the game. In chess, the player can only win if s/he can discern the possible moves s/he can make and which s/he cannot, given the limitations of the board and the legal moves of each piece. Without this order and organization in a game, it is impossible to derive any kind of meaning. The second component of meaningful play is integration. This is the
how the player connects their actions to the game environment. The opening moves of chess set up the middle phase of the game, which, in turn, sets up the late-game, and finally, its conclusion. Extrapolating this to our game-like visualization about Caesar’s Siege of Alesia, we can see that for the player to really learn anything, they must be given this discernibility and integration; that is, they must be able to recognize their possible actions and how each action is constrained by and affects the broader context of the game—the terrain, the enemy army, and their own army. By doing this, they are creating meaningful and memorable play within the context of the Gallic Wars. A guiding assumption of this thesis is that this hands-on approach of learning by doing with a high emphasis on choice can be valuable to the modern student.

To better understand the Gallic Wars, it will be helpful to take a specific event from the campaigns and focus on it in close detail, attempting to gain insight from one event and generalize it to others. Therefore, the focus of this thesis will be the Siege of Alesia, which will be used for several different reasons. First, it can be considered the climax of the Gallic Wars because it was the first and last time Gaul rose up in a unified revolt against the Romans. Furthermore, it is the finale of the most literary of the books in de Bello Gallico (Book VII), meaning that its tone is much more akin to that of a story than the cut-and-dried lists of events found in other books. Book VII also has the greatest number of instances of direct speech in any book of de
Bello Gallico (four; in sections 20, 38, 50, and 77), and seems to flow directly from event to event, with each building upon the next. The final book and fight for Gaul, more than any other book in de Bello Gallico, seems to come alive with drama. As Kahn says, “Among the Commentaries Book 7 of the Gallic Wars is distinguished by the strong sense of dramatic unity that strikes the reader,” (Kahn, 249). The dramatic quality of this book, in turn, allows us to better pull apart what Caesar says and claims to do, and reshape how we look at the veracity of Caesar’s accounts.

While there were many different factors at play in Caesar’s decision-making process, the most central, and often most neglected by historians, is the amount of information that was available to him through the various communication channels of ancient warfare. This thesis will explore Caesar’s ability to judge, formulate, and enact tactics and strategies based on the reports he heard, maps he was drawn, and landscapes he could see. Caesar could not have had a satellite map in his head, but it is reasonable to suggest that he created a ‘mental map’, storing hills, valleys, and strongholds in his mind, simultaneously attaching various tribes and alliances to the map, and even further, attaching various personalities to those tribes and locations—all in a culture and land that was unfamiliar to him, and often hostile.

To open this tentative window into Caesar’s thought-world as a general, we will do what he could only dream of, and create a 3D
interactive model of Alesia, complete with terrain and foliage, through which we can try to understand better Caesar's relationship to the terrain and how it shapes his decisions. Within this model, we can assume the views of both an eagle flying over the battlefield and the view of a soldier standing anywhere on the map. What Caesar says he did, and how (and even why), will be compared with what seems possible and plausible given our digital reconstruction. It may turn out that Caesar was a bit more 'in the dark' than he presents himself in his prose, and is therefore perceived by his readers today.

Before we can grapple with the reconstruction, however, it is necessary to provide a brief summary of de Bello Gallico leading up to the Battle of Alesia.

A Brief Summary of the Gallic Wars

The starting point of Caesar's involvement with Gaul can be said to be the death of Metellus Celer in 59 B.C.E., who was the governor of Transalpine Gaul, a province of the republic. Caesar was then appointed the proconsulship of the province, adding it to his two current territories, Cisalpine Gaul and Illyricum. He then received reports that his province was being endangered by the migration of the Helvetii through the area. Thus Caesar left Rome for Gaul and war.

As it turned out, the Helvetii tribe wished for a peaceful migration through Transalpine Gaul, and sent an emissary to discuss
the possibility of transit through the province. Caesar, however, stalled the negotiations for roughly fifteen days, and during this time, had his troops build a sixteen foot high defensive wall and a matching trench that went on nineteen miles in order to stop the Helvetii from crossing into his province, a premonition of his willingness to use large-scale Roman constructions to control terrain. Caesar then told the returning emissary that no passage would be allowed to the Helvetii, and that any attempt to pass would be met with force (1.8). After a few unsuccessful attempts, the Helvetii took a northern route west, but were chased by Caesar, who believed it dangerous to have a tribe hostile to the Roman people so close to a region both unprotected and rich in grain. After they had crossed Sequani territory and pillaged the lands of the Aedui, the Ambarri, and the Allobroges, Gallic tribes friendly to Rome, Caesar caught the last fourth of the Helvetii crossing the River Arar (the modern day Saône River) and defeated them in battle (1.12). Afterwards, Caesar built a bridge spanning the Arar and pursued the remainder of the Helvetii until battle was met outside the town of Bibracte, where the Romans decisively defeated the Helvetii.

This conflict has been related in detail because it gives us a good chance to examine Caesar’s motivation for going to war. While he tries to pass off the Helvetii as the main reason he had gone to Gaul in the first place, it is well-known that Caesar had his own reasons. According to Wyke, campaigning in Gaul was an activity that
“...gave him the chance gradually to build fresh and substantial political support within a devoted army while continuing, through his agents, to sustain his plebeian support at Rome. War in Gaul could also consolidate his reputation not as the leader of a faction of Rome, but as the commander of Rome’s troops abroad...” (Wyke, 42).

Caesar was certainly hungry for power in the Roman political arena, but his desire to invade Gaul also had factional reasons. Under Caesar’s auspices during his first consulship, Publius Claudius Pulcher had been allowed to serve as a tribune, an office reserved for the plebeian class, although he was a patrician. Caesar facilitated this by allowing Claudius to formally leave the patrician caste and enter that of the plebeian. Claudius was changed to Clodius, reflecting the lower-class pronunciation of his name, and thereafter, Clodius served the political needs of Caesar, waging political wars with his enemies, such as Cicero and Cato the Younger. However, Clodius’ change of status to the plebeian class was technically illegal, only carried out because Caesar was able to pull the necessary religious strings as pontifex maximus despite the objections of Cicero and Cato regarding his authority to carry out this action without the approval of the Senate. Furthermore, Clodius had enacted several grain laws in accordance with Caesar’s wishes that Cicero had declared illegal, based on the invalidity of Caesar’s consular power. Although Caesar
was using Clodius to fight his political battles in Rome, he knew that he needed to be successful in Gaul to win power in the eternal city. Gelzer states,

“His (Caesar’s) affairs were being managed by Clodius, whose moods were incalculable, and whose very tenure of office was grounded in illegality. The performance of great deeds in Gaul was, therefore, not just a matter of ambition but a question of self-preservation. On the path he had entered inactivity meant ruin. Only if he returned much stronger would he be able to win through,” (Gelzer, 101).

A final motivation for Caesar’s campaigns in Gaul was a monetary one. As Herm states, by 58 B.C.E., Caesar had

“... repeatedly had to flee from his political foes and had married three times, studied in academies, had countless love-affairs, fought in the front line, led campaigns, been involved in intrigue and, more than anything else, got himself into debt,” (Herm, 165).

The bills of his consulship were great, and Caesar knew he needed a quick and substantial source of income. Although Caesar claims that he was just interested in the defense of Transalpine Gaul, this reasoning does not hold up as he continues to chase the Helvetii across the Arar River well after the safety of the province seems
secure. Caesar is found here in the early books of *de Bello Gallico* to do what he will do many more times before the end of it: putting himself in the best possible light, while being less than impartial to his enemies. This is squarely because *de Bello Gallico* had a purpose, and that was to spread the exploits of Caesar to the people of Rome and cultivate his popularity.

After Caesar’s actions against the Helvetii, he moved against the Germanic tribes and the tribes of the Belgae, most notably the Nervii. Once they had been defeated, he faces off against the Veneti, a seafaring tribe located in southern Armorica (near present-day Normandy), and even crosses over the English Channel into Britannia (Books IV and V). Several years pass while Caesar works to pacify Gaul, conquering new peoples and simultaneously quelling rebellions in newly-established territory. After believing he had totally quieted Gaul, Caesar went back to Italy to hold assizes. It was then that the “Great Revolt” (Goldsworthy, 315) erupted, triggering the greatest campaign of the Gallic Wars.

**Alesia: The Final Push**

Certainly the climax of the Gallic Wars was the Battle of Alesia, which occurred in 52 BCE. During this year, the Averni rose up under the leadership of Vercingetorix, a young Gallic nobleman, and posed to Caesar one of greatest challenges. This final campaign distinguishes itself from Caesar’s earlier ventures in Gaul because of the political climate. Gaul was a very different place during the Great
Revolt, because it seems that for the first time, the Southern Celtic/Gallic tribes like the Aedui, Sequani, and the Arverni realized the Romans had not come to their lands to fight the Helvetii, and then return to their lands in Transalpine Gaul. They had come to stay in a much more permanent sense. Although Caesar fought the campaign with a few allied tribes, such as the Boii, Remi and Lingones, the Aedui, who had been the most faithful of Rome’s tribal allies, were persuaded to join the unified Gallic confederation after Vercingetorix’s initial campaign successes. Therefore, Gaul would have certainly seemed to offer no safe place for Caesar and his men in 52 B.C.E.

Roman traders had been slaughtered in Cenabum and all Gaul was hostile to Caesar.

Vercingetorix himself merits a character study here simply because of the way Caesar portrays him. He is different from the common Gaul—more sophisticated, more Romanized, more Caesarian. As Rawlings observes, as described by Caesar, the Gauls can be recklessly and rapidly aroused to war, but do not have the staying power of the Romans, making them fickle allies. They are sudden and spasmodic in their plans and overall, a rash people. (Rawlings, 177). Vercingetorix departs from this model, as he is firm in his decision-making, calculating, and patient, as was the case when he waited for the reinforcements at Alesia, enduring starvation and forcing the women and children out of the city because they are simply more mouths to feed. The Gallic leader is also said to do things swiftly
(celeriter), an attribute Caesar often uses to describe himself. Instead of offering decisive battle out on a plain, Vercingetorix harries the Romans, trying to limit their access to food and water with his numerically superior force of cavalry. It could be said that Vercingetorix’s mental map of Gaul is superior to Caesar’s, and he (Caesar) admits that by modelling Vercingetorix after himself.

Vercingetorix is also described as a capable speaker. In 7.20, Vercingetorix denies accusations of treacherously colluding with Caesar in exchange for a kingship over Gaul, in a clear and logical speech, answering the first four counts of his indictment in order, and passionately denying any desire to receive the kingship of Gaul from Caesar. As Charles T. Murphy states in The Use of Speeches in Caesar’s Gallic War, “This first-rate speech meets with immediate approval: the assembled Gauls acquit him by raising a great clamor and by clashing their weapons together,” (C.T. Murphy, 123). In conjunction with his speaking abilities, Vercingetorix also possesses a knack for crafty diplomacy As Paul R. Murphy says, “It was often oratione subdola (subtle oration) that chieftains were persuaded to join the revolt,” (P.R. Murphy, 242). Being able to use his words to entice others to his way of thinking is possibly his greatest similarity to Caesar, to whose ability for persuasive “objective” prose de Bello Gallico stands as a testament. In fact, one of Caesar’s only set-backs in the de Bello Gallico is the Battle of Gergovia, in which Vercingetorix hands the proconsul a defeat that takes the lives of almost 700 men.
The Battle of Gergovia is of particular interest simply because it shows how Caesar represents defeat with his prose. According to Caesar, he had instructed his centurions to keep their men in check and not let them advance too close to the town of Gergovia because Caesar knew the terrain would heavily favor the Gauls and victory would be hard to achieve. Therefore, Caesar called a halt of the army outside the city. However, his writings tell us that only the Tenth Legion heard the trumpet blast signaling a halt, and the rest of the legions advanced towards the city. Then, Lucius Fabius, a centurion of the Eighth Legion, spurred his troops on to take Gergovia, eager to get at the plunder of the city. Once close to the city, Vercingetorix’s troops are able to engage the Romans and pull them into battle. The battle does not seem to be absolutely calamitous for Caesar, but almost 700 men are lost on the field (Hammond, 172). Rather than taking the defeat as a fair one, Caesar blames first his trumpets, something out of his control, and then one of his centurions for being too greedy for booty and plunder.

*Sed elati spe celeris victoriae et hostium fuga et superiorm temporum secundis proeliis nihil adeo arduum sibi esse existimaverunt quod non virtute consequati possent, neque finem prius sequendi fecerunt quam muro oppidi portisque appropinquarunt.*

“But the men, elated by the hope of a speedy victory and the flight of the enemy, and the favorable
battles of previous times, thought nothing was of such sheer difficulty to them that they would not be able to accomplish it by their valor, and they did not cease their pursuit before they had approached the wall and the gates of the city.”

Furthermore, it was Caesar who is able to ‘see’ that the legion is in trouble. In 7.49. Caesar relates that he recognized that his men were in a disadvantageous position, and therefore sent a legate to gather men from the camp and reinforce the soldiers already engaged. Caesar reports on this battle with the same style that he employs for every battle in de Bello Gallico—with the cool confidence of an all-knowing and victorious general. He would present himself to his audience as a general who may be betrayed by his over-zealous troops, but not by his own judgement.

The final stage of the campaign against Vercingetorix took place in what is now a village of central France called Alise-Sainte-Reine. Caesar chased Vercingetorix to the oppidum (fortified town) of Alesia and laid siege to the town, building a wall (contravallation) around the entire fort to starve the Gauls out. Next, there was a cavalry skirmish between Vercingetorix’s horsemen, supposedly numbering 15,000, and Caesar’s Germanic mercenary cavalry, in which the Germans utterly routed the Gauls and, “… pursued them

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1 All translations of de Bello Gallico are my own.
eagerly right up to their ditch and wall. Massive slaughter ensued as some of the Gauls abandoned their horses and tried to cross the ditch and climb over the wall” (7.70). It is after this engagement that Vercingetorix decides to send all of his cavalry away by night to collect reinforcements to come to Alesia and break the siege. The Gauls answered the call and we are told that this Gallic relief force was led by Commius and Vercassivellaunus, supposedly contained over 80,000 horsemen and 250,000 foot soldiers, and approached Alesia from the south. It should be noted, however, that it is likely that either Caesar's information as to the number of troops in the relief force was incorrect, or he deliberately inflated this figure (Goldsworthy, 338).

Henige expands on the possibility for inflation and claims it was done for the purpose of giving credence to the inevitability of Roman victory, saying,

“... warfare is envisaged as the triumph of the godliness and civilization, as represented by the few, over godlessness and barbarism, represented by numberless and faceless masses. In this scenario the odds become so great that victory can be nothing less than the implacable verdict of fortune. And the greater the odds, the more sure the sign,” (Henige, 228).

Of course, similar inflation appears in many pre-modern battles from various cultures, so it is most likely safe to say that while there were many Gauls in the reinforcing army, there were not
250,000. Most modern estimates place this figure around 100,000 men—still a formidable fighting force. In any case, Caesar therefore built a second wall outside of the first (*circumvallation*) in order to fend off this new army of reinforcements. Taken together, the battle-lines were of great dimensions—the Romans had built roughly 25 miles in the combined length of the two walls around the central oppidum of Alesia. Towers, barricades, and traps were built to keep Vercingetorix away from the Roman walls. Just when things truly begin to look desperate for the Gauls and they decide to force all non-military personnel out of the city to save food, the relief force arrives. Two more failed Gallic skirmishes follow before the final assault by the Gauls on the Roman siege works, from within and without. It was noted by the Gallic relief force that there was a portion where the River Ose north of Alesia obstructed the construction of any walls at the foot of Mt. Rea. As Dennison states, the lines at the foot of Mt. Rea were, by far, the weakest parts of the Roman defense (Dennison, 142). It was here that they attempted to overwhelm the Romans by simultaneously attacking from the within the city and to the northwest, led by Vercassivellaunus and 60,000 picked men. It was a hard-fought battle, requiring Caesar himself to lead troops into battle and rally his men, but the Romans were finally able to stave off the Gauls, and Vercingetorix eventually surrendered. Although this battle was followed by mopping-up actions over the next year, Alesia can be considered the definitive moment of the Gallic Wars, the action that finally subdued Gaul’s independence. The outcome of this battle, or
rather siege, was that all of Gaul was brought under Roman control and Caesar, already a powerful member of the first triumvirate (now just two, after the death of Crassus at the battle of Carrhae in 53 BCE against the Parthians), furthered his military reputation and his political influence in Rome, eventually leading to his conflict in civil war with Pompey the Great (with whom his relationship had become strained after the death of Julia, Caesar’s daughter and Pompey’s wife) and his assassination in 44 BCE.

From antiquity to the present day, most historians have regarded Caesar’s account as the complete truth, because he is, without a doubt, the foremost source on the conflict. As late as the 1930s, even, Caesar was regarded as a strategic and tactical genius who was able to do the unexpected and unthinkable while still maintaining full control of his troops and reading every move the Gauls made with accuracy and clarity. Armstrong praises his military ability, saying, “In short, his common sense and his reasoning power, his knowledge of the psychology of his own men and of the enemy, and his subtle artifices left the enemy puzzled and beaten,” (Armstrong, 293).

As explained above in the introduction, the goal of this thesis is to gain at least a glimpse inside the heads of Caesar, Vercingetorix, and their men by using a 3D reconstruction of the terrain of Alesia. This will allow us to investigate, with the help of the digital model, not only the veracity of what Caesar does say, but also what he does not
say. It is possible that Caesar is not quite the general Armstrong thought, and that he, although ultimately victorious, was strategically out-thought by Vercingetorix, and this is glossed over in the writing. By enclosing himself in a stronghold like Alesia with a large reinforcing army on the way, Vercingetorix had placed Caesar between a rock and hard place; he knows Caesar cannot lift the siege because his authority would be gravely diminished in the case of failure to destroy the rebels in the revolt. Although the strain on the Gauls inside Alesia Gauls is great in terms of food and water, Vercingetorix could have surmised that it would not be much better for the Romans once the reinforcements arrive. Furthermore, the Gauls will have a superior numerical advantage, making things truly dire for the Romans.

While it is not likely that Caesar would have personally taken the time to survey the very large terrain of Alesia in detail, he most certainly had his scouts reconnoiter the grounds and create reports, which probably would have been assembled into a rough tactical map. Therefore, Caesar is essentially seeing through the eyes of his soldiers; he has an idea of the terrain, but is putting serious trust in his scouts. Illustrations of various views of Alesia can be found in the appendix, Figures 1-6. The process for scouting during the late republic consisted of exploratores (scouts) and speculatores (spies). As Southern says, the differences between these two groups were probably not great, with the same connotations attributed to them as in more modern times,
(Southern, 226). In 7.11, Caesar finds out *per exploratores* that the men of Cenabum were leaving the town; intelligence that spurred him into action and caused him to take the town. Therefore, Caesar certainly used the information of his informants to great effect and they played a crucial role in his strategic decisions. By creating a digital model, we have access to something like what Caesar was trying to get his scouts to create and what he envisions in his head, at least in coming to grips with the physical setting of the battle. Upon a closer reading of Book VII, it can be found that what Caesar is said to have done does not always mesh with what is possible or likely in terms of topography. Understanding these discrepancies will allow for greater insights into *Commentarii de Bello Gallico*. Before the digital model of the battle field is discussed, however, a preliminary overview of the siege-works is needed.

**An Overview of the Defenses of Alesia**

Differing from most siege battles throughout ancient history, the fields of Alesia held not one or two, but three walls. The first to be discussed is that of the Gallic oppidum. While Caesar does not offer a description of the actual Gallic walls at Alesia, he mentions that they exist in 7.69 and gives a description of Gallic walls in 7.23.

*Muri autem omnes Gallici hac fere forma sunt.*

*Trabes directae perpetuae in longitudinem paribus intervallis, distantes inter se binos pedes, in solo collocantur. Hae revinciuntur introrsus et multo aggere*
vestiuntur: ea autem, quae diximus, inter valla grandibus in fronte saxis effarciuntur. His collocatis et coagmentatis alius insuper ordo additur, ut idem illud intervallum servetur neque inter se contingant trabes, sed paribus intermissae spatiis singulae singulis saxis interiectis arte contineantur. Sic deinceps omne opus contexitur, dum iusta muri altitudo expleatur. Hoc cum in speciem varietatemque opus deformé non est alternis trabibus ac saxis, quae rectis lineis suos ordines servant, tum ad utilitatem et defensionem urbium summam habet opportunitatem, quod et ab incendio lapis et ab ariete materia defendit, quae perpetuis trabibus pedes quadragenos plerumque introrsus revincta neque perrumpi neque distrahi potest.

“All Gallic walls are made in this form, however. Timbers are laid out continuously in equal intervals, with a distance of two feet between them, on the ground. These are fastened inwardly and covered with much earth: meanwhile, those intervals mentioned are filled in front with large stones. To these, having been laid and joined, another order is added above, so that the same interval is maintained and the timbers do not overlap over each other, but the individual beams set at equal spaces are held tightly by the individual rocks.
that have been pushed between them. Thus the whole
work is put together in order, until the correct height of
the wall is completed. This work is both not unattractive
in sight or variety, with alternate timbers and stones,
which keep their orders in straight lines; and at the
same time has great scope in utility and defense of the
city, because the stone defends from fire, and the timber
from a ram, since the uninterrupted timbers, usually
forty feet long, strengthened on the inside, are not able
to be breached or pulled apart.”

These Gallic walls were built sometime before the Battle of
Alesia, and are therefore much more sturdy and permanent than the
Roman walls. It should be noted that Caesar even praises the walls for
their effectiveness and aesthetics. The Gauls also built a six foot wall
and ditch on the slope of the hill facing east, but since the heaviest
fighting of the battle took place to the west of the Gallic town, these
defenses did not see significant action. It is possible, however, that
Vercingetorix was attempting to attract Caesar to focus his defenses
in the west—where the reinforcing army would be able to threaten
their rear.

The Roman walls are what really make this siege unique in the
Gallic campaigns. As noted above, there were two Roman walls, one of
contravallation intended to keep Vercingetorix and his men in, and
one of circumvallation to keep Commius and his reinforcing army out.
The basic construction of the Roman walls was this: a glacis of earth and rampart were constructed, together measuring roughly 12 feet in height. The dirt for the earthen glacis was taken from two consecutive ditches dug directly in front of the glacis and rampart. As the defenses were put up ad hoc, the rampart would have been created from tree branches that were lashed together to make a palisade. Two such walls were created, with the Roman camps located between these walls.

Just as important as the walls the Romans built, however, were the various traps they constructed to slow down, paralyze, or kill the Gallic warriors in their assault of the siege-lines. A diagram of the various traps at Alesia can be found in the appendix, Figure 7. As the Gallic warrior ran towards the Roman fortifications, he first would have encountered a ditch 400 feet from the Roman walls described in 7.72. This first ditch was 20 feet deep, with perpendicular sides, so that the bottom was as wide as the top. Once the soldier crossed this, the first impediment he would have encountered is the stimulus, which literally translates to either goad, prick, spur, or more figuratively, anything used to speed something up (See Figure 8 in the appendix). Hammond, in her translation notes of Book VII, says this name was a bit of macabre soldier humor (Hammond, 241). Although spurs were normally used to speed up movement, as on a horse, these spurs were crippling to the Gallic advance. These stimuli were essentially barbed hooks designed to impale the foot of anyone who
stepped on it, with the barb hooking the foot so that disentangling oneself from the implement was extremely difficult and painful. In any case, if a soldier stepped on one of these, he was neutralized, yet there were plenty more traps to navigate, ditches to cross, and a 12 foot wall to climb—all before engaging the legionaries at the top of the rampart.

The next obstacle to be encountered by the Gaul was the field of *lilia*, or lilies. These were sharpened wooden stakes as thick as a man’s thigh that were tempered and dug into the ground so that only about three inches protruded from the ground. They were sunk into ditches tapering from the top to bottom, and were deployed in a quincunx pattern (the five side of a standard die) and were covered with brush and branches presumably stripped off of the tree trunks used for the palisade. This obscured the trap and forced the Gaul to move gingerly as he navigated the eight consecutive rows of *lilia*. The text claims that the men called these traps lilies because of their resemblance to the flower, another example of dark humor.

The next line of defense for the Romans was the *cippi*. These were thick branches, sharpened at the top and dug into the earth in pits much like the *lilia*, but with more of the branch left protruding so that they could fully impale a man who fell on them. The lateral branches that divided off from the main, sharpened one were left to trip up the attacker as he moved through the trap. *Cippi*, when translated to English, means either ‘gravestone’ or ‘boundary-marker’,
or ‘mile-marker’. Again, the name seems to make light of the harm they would cause. It seems strange that these men, who were so used to death after years of campaigning under Caesar, would give these death-traps names that were either light-hearted or were meant to induce a bit of humor. However, I think it is possible that there could also be a psychological explanation behind this. The things these traps did to their victims were incredibly vicious—the spurs and lilies both had the possibility of crippling the man who stepped on them, not necessarily killing them, but destroying their chance to support themselves even if they did not die from the wounds. In order to cope with knowingly inflicting chronic pain and a crippled life on another man, the legionaries were dramatizing the distance of the battlefield from everyday things like horse spurs, milestones, or lilies. As Scarry says of torturers in general, the Roman soldiers, who know the physical effects of their traps, know that these traps will cause their victims to

“...retreat into the most self-absorbed and self-experiencing of human feelings (pain, that is), when it is the very essence of these objects (the objects whose names have been reapplied to instruments of torture) to express the most expansive potential of the human being, his ability to project himself out of his private, isolating needs into a concrete, objectified, and therefore sharable world,” (Scarry, 9)
in this case, the world of riding spurs, lilies, and milestones. An example Scarry shares that is similar to the traps of Alesia is how words like ‘oven’ and ‘shower’ take on an entirely new and sinister meaning when thought of in the context of Nazi Germany (Scarry, 9).

The cippi were the last of the Roman traps placed outside the walls (both contravallation and circumvallation), but were not the last obstacles the Gauls had to pass before climbing the glacis and rampart. They still would have encountered two ditches before the glacis and rampart, 15 feet wide, with an estimated 2.4-2.7 meter depth. The one closest to the Gallic walls was filled with water diverted from the Ose and Oserain rivers. According to Keeley, Fontana, and Quick, the moat-like ditch filled with water was trapezoidal in shape, while the next (closest to the Roman walls) was V-shaped (Keeley, Fontana, and Quick, 59). Figure 9 shows these ditches in the appendix. Only after all of this could a Gallic warrior climb the rampart, which itself was lined with sharpened stakes at the top of the glacis, and hope to engage in hand-to-hand combat. So while we are not given casualty statistics for the soldiers killed or neutralized by the traps at Alesia, it is easy to understand that these defenses were key to the Roman victory. In fact, during the second of the two skirmishes before the final battle for Alesia, the time it takes the Gauls from inside the oppidum to fill in the ditches costs them the chance for real coordination with the outside forces attacking Caesar, as told in 7.82.
Creating a Digital Model of Alesia

In order to better understand and critically investigate Caesar’s account of the Siege of Alesia, I have created a 3D model of the battle using the Unity game engine. The creation of the model involved both on-site research at Alise-Sainte-Reine, the modern day site of the battle, and extensive literary and web-based research. It is important to note, however, that for much of the 19th and 20th centuries, the exact location of the Battle of Alesia was in dispute. Gerhard Herm and Michael Dietler tell us that although the French village of Alaise was formerly considered the location of the battle, excavations paid for by the French emperor Napoleon III validated Alise-Sainte-Reine, roughly 191 kilometers to the west of Alaise, as the actual site of the siege described in de Bello Gallico. These excavations uncovered weapons of both Roman and Gallic origin, Roman-made traps, and even the 18-foot-wide ditch Caesar makes special note of in his writings (Herm, 193, Dietler, 589). Finally, further excavations led by Michel Reddé and Siegmar von Schnurbein from 1991-1997 confirm Alise-Sainte-Reine as the battle site. Concerning the likelihood of Alise-Sainte-Reine as the site of Alesia, Wells writes, “The work carried out in the 1990s should remove all doubt,” (Wells, 676). In order to make sure the model was reasonably accurate, I used a plug-in for Unity called World Composer, which allowed me to extract satellite data from Microsoft’s Bing and create a base height map of Alesia and an area extending out beyond the
circumference of the Roman fortifications. Although there is some margin for error, owing to the fact that the resolution of the satellite data is 5-10 meters per pixel, this software workflow ensures us that the model’s topography is reasonably accurate for the time of Caesar. Although the area has been modernized with the construction of the small town of Venarey-Les-Laumes and Alise-Sainte-Reine, the hills still remain, unaffected by major landscaping work. Although World Composer gave me a sufficiently accurate model of the terrain’s elevation and steepness, the foliage of the area had yet to be determined. While Caesar makes no mention of the different types of grass on the field, I was able to take photographs of the landscape during my time on-site and try to match my terrain to what I saw. To do this, I placed splat-maps (essentially visual representations of grass, mud, gravel or other substances) that also varied by elevation and steepness. A greater challenge was found in the tree placement on the model. The surrounding hills must have been substantially forested (as they are in part today), but because Caesar does not specify which areas on the battlefield surrounding Alesia were wooded, I decided to create foliage based on elevation. Since Alesia was an inhabited area, it is safe to assume that the large plain to the west of Alesia was cultivated and clear of trees. The river was most likely flanked by a fair amount of trees, some of which were probably cut down by Caesar’s men in order to build the palisades for the walls of circumvallation and contravallation. Most of the trees were placed on areas of the map with higher elevation, because these places were
least likely to be cultivated, and therefore had not been cleared by the inhabitants of the area. Because the Romans built roughly 25 miles of palisade, stumps, rather than trees, have been placed on the edges of the forests, along the rivers and in random places within the Roman camp. It should also be noted that the trees used in the model were chosen based on the most common types of trees in the area, as well as the best versions available from the Unity asset store. They were prefabricated, and not made from scratch.

Building the walls was a challenge that was overcome using a combination of height map additions and subtractions in Terrain Composer (to create the glacis and ditches) and the Unity plug-in ProBuilder together with the 3D modeling program Cinema 4D that allowed me to create structures and then put a texture map that looked like a wooden palisade over them. In de Bello Gallico, Caesar tells us that he had his men construct an earthwork 12 feet high crowned by the palisade of wood. He does not, however, specify the height of the palisade itself. Again, then, I had to base my design on what was most likely, and also allow for variation. Therefore, while the height of the glacis is essentially uniform, the height of the wall varies randomly with different tree heights.

The importance of this 3D model lies in the questions it allows us to explore regarding Caesar’s account of the Siege of Alesia in Book VII. Furthermore, it gives the learner a truer sense of what is was like to be at the battle—the size of the field, the extreme height
differences, and the views associated with them. By using this model, we can attempt to better see as Caesar did, and therefore think through his strategic, tactical, and experiential decisions with a new, hopefully more accurate, lens.

**Discrepancies with Caesar**

While in the general sense, Caesar's writings can, and should, be recognized as an invaluable source, it is also possible to find disagreements between what the text says and what we can see with our digital model. The two questions below address, in the light of the 3D model of the terrain, Caesar’s accuracy in terms of strategy and tactics.

To a student casting a critical eye on Caesar’s account of the siege, one event that does not make sense is Vercingetorix’s decision to send away his entire force of cavalry to gather reinforcements throughout Gaul (7.64 gives the number 15,000 to the horsemen).

*Vercingetorix, priusquam munitiones ab Romanis perficiantur, consilium capit omnem ab se equitatum noctu dimittere. Discendentibus mandat ut suam quisque eorum civitatem adeat omnesque qui per aetatem arma ferre possint ad bellum cogant.*

“Vercingetorix, before the defenses were completed by the Romans, conceives a plan to send
away all his horsemen by night. He commands to the
ones leaving that each should approach his own people
and gather everyone of age able to bear arms for war.”

As reported by Caesar, Vercingetorix’s decision to send away
all of his cavalry is certainly questionable. As Fuller observes, it must
have seemed a gift from heaven when Caesar found out that all of
Vercingetorix’s cavalry had left the field and surrounding area (Fuller,
152). Would it not have been better to send at most a thousand to
gather reinforcements and use the rest to harry the Roman foragers,
thereby putting greater strain on Caesar’s already precarious
logistical position? Given the terrain, with its hilly topography and
wide-open spaces, it seems the Gallic cavalry could have carried out a
major guerilla warfare-style operation on the Romans as they built the
outer walls. Caesar tells us in 7.74 that both he and Vercingetorix only
had grain and forage for 30 days, so harassing these supplies could
have only helped Vercingetorix’s position, and Caesar was certainly
afraid of being trapped between the two Gallic armies without food,
forcing him to attempt to break through the siege-lines. A plausible
objection to this line of reasoning is that earlier in the siege, we see
Caesar’s German mercenary cavalry defeat the Gauls in mounted
combat. Certainly the Gauls lost many horsemen, possibly thousands,
in the skirmish detailed a few pages above, but Caesar does not
specify the exact amount of casualties sustained by the Gauls. Clearly,
though, Vercingetorix had enough to send for reinforcements. At the
same time, while it is possible that by sending all of the horsemen away, he was getting rid of mouths to feed, and thereby extending the time he could wait for the relief army, it must also be noted that Vercingetorix was also sending food away in the form of horseflesh. Furthermore, the Gauls were ready to consider cannibalism if Critognatus’ speech found in 7.77 can be given any credence. And while this speech was certainly invented for de Bello Gallico (although likely based on prisoners’ reports of the attitude in Alesia during the last days of the siege), it shows that there was not a surplus of thousands of horses to eat. Approached from any angle, then, Vercingetorix’s decision to send away all of his cavalry (as told by Caesar) is puzzling.

Using our 3D model, we can take a closer look at the situation and speculate from a more informed position as to what actually happened at Alesia. Again, Caesar provides few details about the placement of trees at the site of Alesia, and the modern site has almost wholly been converted to farmland. However, he does tell us in 7.69 that there is a three mile plain facing the town (located west of the fort), and we can assume that the tops of the various hills were wooded. In our model, we can see that Caesar’s siege-works were broken by the Ose and Oserain rivers. If these two rivers were not exclusively controlled by the Romans, then it would have been entirely possible for a host of cavalry to water and graze their horses to either the northwest, east, or southeast of Alesia. With Caesar’s men tied up
constructing the siege-works as well, it is probable that there existed little Roman control outside of the wall of circumvallation. Caesar also says in 7.74 that he had grain and forage for thirty days gathered so he would not have to leave camp for more food. This infers that at least a portion of the Gallic cavalry remained close, outside of the Roman walls and capable of harassing attempts to gather food.

I have found the best reasoning for Vercingetorix sending all of his cavalry is that he was trying to get Caesar to finish his siege-lines, which seems very counter-intuitive at first. However, if Caesar was able to finish the walls—all 25 miles of them—he would certainly be more inclined to make his stand at Alesia, although surrounded by Gauls. Caesar knew Alesia was the make-or-break moment of the campaign, and after investing that much manpower, he could not just abandon it; his troops might lose faith and the walls would remain a testament to Caesar's retreat and cowardice. Vercingetorix has very slyly trapped Caesar into staying and giving battle here. One could argue that if Vercingetorix could have coordinated action between the Gallic forces inside Alesia and those outside Caesar's walls, he could have orchestrated a crushing victory for the Gauls. Instead, however, when the relief force arrives, they impatiently attack and Vercingetorix is forced to act according to their schedule. Caesar, on the other hand, may report that all the Gallic cavalry simply rode away in order to downplay the vulnerability of his own position.
Although all of these pieces of information might seem insignificant on their own, taken together as pointing toward what Caesar seems to have left unsaid, they are compelling. And while the digital model is not absolutely necessary to arrive at this conclusion, being able to visualize the map in this format certainly forces the student to think about the lay of the land and use this to view Caesar’s account in a more critical light.

Another major problem with what Caesar tells us about the Battle of Alesia is that in the most critical stage of the battle, when all three fronts were engaged by the Gauls, Caesar dons his red cloak, his distinguishing mark, and personally enters the fray, strengthening the morale of the men and essentially saving the battle for the Roman troops. This raises serious questions, because we are also told in Book VII that the battle is won because Caesar was able to discern that the Gauls were open to a flanking maneuver by his Germanic cavalry, and then order that maneuver.

*Mittit primo Brutum adulescentem cum cohortibus Caesar, post cum aliis Gaium Fabium legatum; postremo ipse, cum vehementius pugnaretur, integros subsidio adducit. Restituto proelio ac repulsis hostibus eo quo Labienum miserat contendit; cohortes quattuor ex proximo castello deducit, equitum partem sequi, partem circumire exteriores munitiones et ab tergo hostes adoriri iubet. Labienus, postquam neque aggeres*
neque fossae vim hostium sustinere poterant, coactis una XL cohortibus, quas ex proximis praesidus deductas fors obtulit, Caesarem per nuntios facit certiorem quid faciendum existimet. Accelerat Caesar, ut proelio intersit.

“Caesar first sent young Brutus with cohorts, and then, the legate Gaius Fabius with others; lastly, he, himself, when the fighting was most savage, led fresh troops for reinforcements. The battle restored and the enemies beaten back, he hurried to that place where he had sent Labienus; he led out four cohorts from the nearest fort, ordered part of the cavalry to follow him, part to go around the outer fortifications and assault the enemies in the rear. Labienus, after neither ramps nor trenches were able to stop the enemy, having collected 40 cohorts together, which had come out of the nearest forts by chance, made certain to Caesar through messengers what he thought needed to be done. Caesar hurried, in order to get involved in the battle.”

It is puzzling that most sources (all that I have found) seem to accept Caesar’s claim of both engaging in combat and ordering the charge without question or just skip to the effect of the cavalry charge without dissecting the logic behind it. For instance, Southern claims, somewhat implausibly, that generals like Caesar really were able to
appear everywhere at once, accomplishing multiple tasks at once (Southern, 202), while Rivet simply skips over the ordering of the charge and just cuts to the chase of the Gauls seeing cavalry in their rear, and fleeing in a mass rout (Rivet, 200). However, when looking at the map of the fighting, it can be seen that if Caesar was among his men at this critical junction in the battle, then he would simply not have had the view to see and order this maneuver. Figure 2 shows the view from the area where Caesar would have been if he were among his troops engaged in front of the northwest section of the fortifications and ordered a charge around the outside of the walls. He would have been on the lowest plain of the field, surrounded by shouting, fighting, and dying men, and, perhaps most importantly, would have been enclosed by the siege works that stood close to twenty feet tall. From this area, it is hard to believe that Caesar could see enough of the battlefield to formulate strategic decisions. In fact, the Gauls on the hill-top to the west of Alesia would have a far better view of the situation and the ability to counter Caesar's actions. In his writing, Caesar claims he made his way to the location of fighting in which his legate Labienus commanded. This was the northwestern part of the siege works, where Vercassivellaunus was attacking. The next sentence states that he ordered one cohort of cavalry to follow him, and the rest to embark on the flanking attack. If Caesar had moved towards Labienus, a move down in terms of elevation, how was he able to see that the Gauls on the western plain were open to attack? One could propose that Caesar would have had various
messengers who would report to him and inform him of the developing aspects of the battle that he could not see, but as Southern states of Roman generals, it was most possible to report information and take orders to different contingents of the army if the general was in an established position in the rear of the battlefield, not leading from the front, as we are told Caesar does here (Southern, 203). Although not impossible, the chances of a messenger finding Caesar or seeing his signal on the move, in the midst of the most critical fighting of the siege, are not good. Instead, for Caesar to obtain this information, either by his own sight or by messenger, he would have had to have been stationed somewhere both with an expansive view and in a location that was accessible to messengers. Caesar offers a cryptic and compressed description of his headquarters in 7.85,

_Caesar idoneum locum nactus quid quaque ex parte geratur cognoscit; laborantibus summittit._

“Happening upon a suitable place, Caesar perceives whatever is happening in any part; he aids those laboring.”

Here is a major disagreement between Caesar’s writing and our digital model. As can be seen in Figure 1, which is the vantage point of Caesar’s probable headquarters, the battlefield was simply too large to be entirely encompassed in one view from any of the available altitudes. In terms of seeing the events of the siege unfolding in the west, however, Mt. de Flavigny, fits both of these requirements, as it
lies south of Alesia and would be the closest calm area to the points of attack that also has a high elevation. Furthermore, archeological evidence shows that the line of contravallation encompassed the upper reaches of Mt. de Flavigny, so this seems to be a likely location for Caesar’s command headquarters if one existed. With the help of our model built in Unity, we can see that Mt. de Flavigny has the elevation to provide a view of the western siege lines, as well as the expansive plain outside of it that held the masses of the Gallic reinforcements. We can also see with the model that there was a distance of roughly three kilometers between Mt. de Flavigny and the site of final combat in which Caesar was said to intervene. It could be said that since the fortifications were weakest in the northwest corner, Caesar might have expected an assault in this location and told his cavalry to be ready to charge. However, the account does not explicitly say this. Furthermore, the 60,000 men under Vercassivellaunus are said to have attacked the gap by surprise (7.83), making Caesar’s foreknowledge of an assault less likely. Putting all of this together, it seems close to impossible that Caesar was able to simultaneously fight in hand-to-hand combat and make this battle-saving tactical decision in the midst of combat. There are two possible paths to now pursue: that Caesar ordered the charge from a position with an adequate view, or that he did not because he was fighting with his men close to the River Ose.

**Caesar, the General**
If we pursue the first view, Caesar plays a role in the battle more typical for generals of the time. Instead of going down among his own troops and putting himself into danger, he stays at his command headquarters on Mt. de Flavigny. From here, he is able to send and receive messages to and from centurions and mercenary captains who can then instruct their troops what actions need to be taken and at what time. Most importantly, from his vantage point on Mt. de Flavigny, Caesar could see the terrain that the flanking maneuver would have encompassed. Using our digital model, we can see the view Caesar would have had from his headquarters on Mt. de Flavigny.

As Southern states,

“Commanding from the rear allowed the general to observe the whole battle, or however much of it he could see from his position. Thus, he was enabled to decide how to deal with specific situations and to issue orders to the troops, perhaps sending in each section when it was called for, bringing in the reserves at threatened points, attempting an enveloping maneuver, or ordering the pursuit” (Southern, 203).

This option seems favorable for two reasons besides the main one stated above. First, Caesar could readjust if he saw his charge fail. If he was down on the ground level with his troops, he would have been in a very difficult position, personally and strategically, if the cavalry flank attack were to be defeated. On Mt. de Flavigny, however, Caesar would have had more wiggle room to think up an alternative
strategy for conducting the battle should the flank attack fail. Second, there was of course the risk of bodily harm. Caesar was indisputably a master statesman, orator, and manipulator; even his generalship was prodigious. However, we have no reason to believe he was a master warrior. During the Battle of Alesia, he would have been 48 years old, past the prime of combat effectiveness. Furthermore, Caesar had much to lose, and throwing his life away in a battle where victory was a distinct possibility, and would carry with it tremendous political potential back in Rome, does not seem akin to the calculating measures traditionally (and accurately) associated with Caesar.

**Caesar, the Warrior**

The other option we are faced with is that Caesar did in fact engage in personal combat in the area of Vercassivellaunus’ attack in the northwest corner of the fortifications. There is, of course, the chance that he ordered the charge just as he was moving to engage the Gauls, which is what the Latin text suggests. However, it would be very difficult to time the two actions so that Caesar would appear in the front lines just as the cavalry charge fell upon the Gallic rear. If the timing was not precise, however, Caesar would be exposing himself to serious tactical and personal risk. Another, more likely option, is that when Caesar went down to his troops to bolster their morale and possibly ride into combat, someone else spotted the susceptibility of the Gauls, and ordered the cavalry to execute the
flanking maneuver. The obvious follow-up question to this is if it was not Caesar who ordered the charge, who was it?

There are a few candidates for who might have ordered the charge, but since Caesar makes himself out to be the hero of the day, we do not find any explicit evidence of who it could be from *de Bello Gallico*. However, there are vague clues left by Caesar as to who might have remained at the command post after Caesar entered the battle (if, in fact, he did). In 7.81, we are told that his legates Gaius Trebonius and Marcus Antonius were stationed on the walls where Vercingetorix was attacking during a previous assault, so they were in the area, and could have possibly seen the opportunity to charge the Gallic flank from their higher position on the walls. It must also be noted that Antonius had commanded cavalry in the past (Plutarch, 3.4). One might say that any centurion who saw the opening could have been the one who ordered the charge, but because centurions only had authority over their centuries, this is not a tenable solution. Also, when thinking about the cavalry in Book VII, it must be remembered that Caesar supplemented the Roman citizen cavalry with Germanic mercenaries, who were much better horsemen than the Romans. Therefore, it is entirely possible that the man who ordered the charge that saved the battle for the Romans was the commander of the Germanic cavalry, and was not even a Roman. If this is the case, we can understand how and why Caesar was able to take all of the credit for this decisive maneuver and not receive any backlash in
Rome. In the end, it appears either a legate (possibly Marcus Antonius) or cavalry commander who could have been a German mercenary ordered the charge if Caesar took part in the battle.

Between these two options of Caesar either remaining at his headquarters and ordering the charge, or rushing into the fight and leaving a second-in-command at the headquarters who could have ordered the charge, I believe the first option is sounder, for the reasons listed above. Granted that great generals were often more aware of their surroundings than others and that charisma played a major part in the depiction of his (in our case, Caesar’s) battlefield mobility (Southern, 203), even he cannot be completely absorbed in the cutting edge of hand-to-hand battle and still have the emotional clarity and topographical vantage point to make strategic decisions, particularly about areas of the battlefield he cannot see. Furthermore, it certainly seems that Caesar was opening himself up to criticism back in Rome. Many of the elites in Roman society would have had their fair share of battlefield experience and it is likely they would have realized the contradiction Caesar had stepped into. Although we may never be able to fully know what exactly happened in this instance, the realities of the terrain conflict with Caesar’s account, which would place him both in the battle directly and commanding it from a strategic perspective. This suggests that Caesar was willing to use very broad strokes when painting his depiction of the Siege of Alesia.
Focus: The Legionary

As said above, it is the primary goal of this thesis to discover what Caesar has left unsaid in his writings. Something that is typically absent from his mainly strategic and tactical writing is the experience of his soldiers, the common legionaries. It is another, if secondary, goal of this thesis to explore how the soldiers interacted with this environment. One of the biggest realizations associated with trying to grasp this battle is the sheer amount of physical toil and labor involved in the construction of the siege-works and traps. To gather the necessary supplies for these constructions, the Romans had to thoroughly scour the entire area around Alesia for wood. This would have required extensive time spent on the outskirts of heavily wooded areas and Caesar’s men probably spent days getting to know the hills, trees, and rivers near Alesia. Although it can be assumed that many soldiers saw more of the actual terrain than Caesar, it is certainly not viable to say that they were afforded the same reports and maps from the scouts of the army. In that case, the common legionary probably had a very different mental map of the terrain than Caesar did. In this situation, we must ask the question as to what the legionary could actually see during the Battle of Alesia, and of course, the answer is complicated, and varies from soldier to soldier.

However, we can divide our term ‘soldier’ up a bit to allow for more specialization and insight into what each experienced during the
siege. Caesar does a relatively poor job, as do most military historians of the age (Fuller, 76), of describing how his army was organized, trained, and supplied, presumably because this information was commonplace. However, because the Roman people were fairly conservative, most historians assume that Caesar’s army was not terribly different from his uncle Marius’ (Fuller, 76). Therefore, as had nearly all previous Roman armies, Caesar’s Roman troops were mainly comprised of legionaries, or infantry soldiers that fought with two throwing spears called *pila*, a short sword made for stabbing called a *gladius*, and occasionally, a wide-bladed dagger called a *pugio*. We can be sure the *pila* and *gladius* were used at Alesia because they are mentioned in *de Bello Gallico*. In the direst moments of the battle, Caesar says, “*Nostri omissis pilis gladiis rem gerunt*,” (7.88) “Letting go of their *pila* [throwing spears], our [troops] did the thing [the fight] with *gladii* [short swords].”

While these were the probable arms the legionary in Caesar’s army, he also had a kit he carried daily. Josephus, writing in 69 A.D., in his *Wars of the Jews*, says,

> “the foot soldiers have a spear and a long buckler, besides a saw and a basket, a pick-axe and an axe, a thong of leather and a hook, with provisions for three days, so that a footman hath no great need of a mule to carry his burdens,”

(Josephus, III, v, 5, Whiston, tr.).
However, scholars like H.J. Edwards posit that this burden was unlikely, saying of the legionary,

“On the march he carried his kit (sacrinae) and food in a bundle, on a crutch strapped to his shoulders—called after its inventor mulus Marianus. The heavy baggage (impedimenta) was carried on pack-animals (iumenta), driven by camp followers (calones),”

(Edwards, 604).

Holmes notes that there is no mention of supply carts in the Gallic Campaigns, and estimates that each legion probably employed 500 or 600 mules to carry the baggage, (Holmes, 120). However, Edwards disagrees, saying,

“There is no actual evidence that wheeled transport was used by the Romans in the Gallic War; but it is not impossible that, where the roads were good enough, native carts may have been requisitioned for the purpose,” (Edwards, 604).

In any case, the burden of the legionary was great in terms of physical stress, both in and out of combat.

During the time of Caesar, military men were required to serve a 10 year period, although it is possible that many soldiers were retained by the late republic/early empire before the systems of discharge had been properly established (Southern, 99). It should be
noted that men frequently volunteered for longer service due to increased prestige and position, as was the case for Spurius Ligustinus, a legionary who became a soldier in 204 B.C., and served 22 years, fighting in the campaigns of Macedon, Spain, and Aetolia. Through his service he eventually attained the rank of first centurion of his corps, (Livy, XLII, 34). While this Ligustinus served roughly 150 years earlier than a soldier in Caesar's army, as stated above, the Roman military was fairly conservative, and the same benefits of conquest could be expected in the Gallic Wars. Furthermore, Caesar actually raised the payment soldiers were granted from 120 *denarii* to 225, only adding to the benefits of soldiering.

What escapes many people when considering battles of the ancient world is that every individual soldier was prone to taking his own course of action in the combat, based on what he heard, felt, and saw. As Phang says,

“Roman formations in battle and on the march were maintained by officers’ exhortation and coercion; by soldiers following the standards; and by the honor and courage of endurance and the shamefulness of flight,” (Phang, 38).

If soldiers gave in to the temptation to act according to their senses rather than the orders of their superiors, they were not only disobeying the higher command, but were throwing themselves into defeat. It was this unbridled and independent type of action on the
part of the men that led to the shameful defeat at Gergovia, at least according to Caesar’s account.

Taking all of this information to the battle of Alesia, Caesar says in 7.80 that he posted his men on both walls at a calculated distance to avoid confusion as to posting and responsibility. Every man was expected to know and do his duty. These legionaries would therefore have had a good view of the overall situation on one side of the hill and wall. This, however, does not really get across what these legionaries probably felt during the battle. A man facing Alesia could watch the Gauls streaming out of the Oppidum, running the course of the hill towards the siege-works, getting caught and impaled or maimed by the traps, showered with projectiles, and finally struggling up the glacis and wall to the waiting Romans. It should be noted, though, that in a few instances, such as that of the 60,000 men picked for the assault on the most vulnerable point in the walls, the Gauls were charging downhill, giving them accelerated speed and improved range for their own projectiles. But while his eyes would certainly be transfixed upon all the things happening in front of him, in the back of his head, in many instances he would hear the sound of violence behind him; a fight he could not directly influence. The same can be said of the legionary facing out towards the plain of modern-day Venarey-Les-Laumes. Caesar even writes about this, saying in 7.84,

*Multum ad terrendos nostros valet clamor, qui post tergum pugnantibus extitit, quod suum periculum*
in aliena vident salute constare: omnia enim plerumque quae absunt vehementius hominum mentes perturbant.

“The clamor caused us much fear, which arose behind our fighters, because they saw their own danger was to be decided by the valor of others: for generally, all things that are not present perturb the minds of men more vehemently.”

It is also important to remember that the Romans rarely fought a defensive siege battle. Caesar’s conquests in Gaul had mostly consisted of open field battles along with sieges, in which pillaging and raping the hostile city was as much a part of battle as the fighting. Although they were certainly accustomed to building and defending castra, or camps, these siege-works are on an exponentially larger scale. Caesar’s men are in relatively unchartered territory, then, having to practice a combat style they were not accustomed to.

Wherever a soldier was stationed, he was probably only familiar with his area—his stretch of rampart, plain, and horizon. All else was not his duty to know, as Caesar’s discipline instilled. Therefore, the soldiers on the eastern ramparts might have only come to know the danger to the entire army through dispatches from the west or calls for reinforcements.
It would have been a relatively different story for the cavalry of Caesar’s army, though. Having spent time outside the walls ranging for forage and fighting skirmishes with the Gallic reinforcement cavalry, they would have felt surer of their environment and their ability to navigate it. One could also suggest that because most of the Roman cavalry was Germanic, they would have appeared very similar to Gallic cavalry, perhaps only with the difference of having the left shoulder bare, as was the denotation of a Gaul friendly to Caesar’s forces. This would have perhaps allowed for greater scouting abilities. Therefore, the mental map of the cavalry would likely have been almost akin to Caesar’s, as they helped to create his map and intelligence. The cavalry, unlike the infantry, could have had a better idea of the overall shape and progression of the siege, then, because they might have gone over the hill in the days before the battle where Vercassivellaunus was attacking. They had ranged around the entirety of the siege-works looking for food, and thus knew the area. So the German cavalry, not the elite Romans who often served in the Roman cavalry, were Caesar’s eyes and ears. In fact, this could be a principal reason they were able to flank the Gauls for the decisive charge of the battle while Caesar, if we trust his account, was engaged in the front lines of the battle. They were confident in their relationship to the space of Alesia, and were therefore able to manipulate it more fully, even without Caesar’s direct command.
With this usable knowledge, however, also comes the knowledge of just how bad the Roman position actually was. As principal foragers and scouts, the cavalry would have seen how depleted the food supply was becoming and how once the Gallic reinforcements arrived, they might be able to squeeze off Roman access to the Ose and Oserain Rivers through the construction of dams. Combining this with the numerical advantage the Gallic reinforcements were adding to the battle, the outlook of the cavalry could become bleak indeed, an outlook which would only bleed into the rank and file legionaries as rumors and intelligence filtered through the camps.

In sum, the average Roman soldier, while having a relative degree of control over his interactions with his personal space, did not have much control over his environment. He was trapped between the Gauls of Vercingetorix and those of Commius and Vercassivellaunus, and was totally dependent on Caesar’s ability to manipulate the space and forces of Alesia.

**The Defenses of Alesia: How the *Vir* shapes his Environment**

Throughout Book VII of *de Bello Gallico* and culminating in the final battle of Rome and Gaul, man’s ability to shape his environment emerges as a key theme. As Riggsby states, there are three stages in the technological warfare of the Gallic Campaigns, saying,
“In the first (phase) (Books 1 and 2), Rome’s enemies are overwhelmed by superior technology, to which they have nothing even to compare. When native devices are mentioned, they are strikingly primitive, not well distinguished from nature. In the middle of the work (Books 3 through 6), Roman technology remains superior, but its effects are not nearly so spectacular. Gallic technology becomes dramatically better, largely through piecemeal appropriation of Roman techniques. The final phase is constituted by Book 7 alone. Here we see, in a sense, improvement on both sides, as well as the most direct confrontations of technology in the book. The Romans remain superior, but the position is now vastly more complicated,” (Riggsby, 73-74).

This final contest of technology and environment manipulation is Alesia. Here the Gauls are defensively lodged in their prebuilt oppidum of stone, while the Romans have utterly dominated their environment in the construction of 25 miles of glacis and palisade. They have dug a new channel joining the rivers Ose and Oserain, cut down thousands of trees, and replaced the green meadows and cultivated fields of wheat with muddy ground torn and split by the continual trod of hoof and heel. So, while Caesar has shown the Gauls more capable of using warfare technology in Book VII, he has also
shown that his technology is the masterclass; that Roman ingenuity means the mastery of physical space.

However, we do see that technology and Roman ingenuity are not the absolute saviors at Alesia. As we are told in the battle scenes of Book VII, things get pretty touch-and-go for the Romans. 7.85 tells us that the picked men under Vercassivellaunus “threw earth on to the defenses, which gave the Gauls a means of ascent as well as covering the devices which the Romans had hidden in the ground. Our men were now running out of weapons and of strength.” In this situation, the might of Caesar’s walls are perilously close to being overcome; the ‘altae moenia Romae’ nearly taken. Therefore it is up to traditional Roman will and might to win the battle and, by extension, the campaign. As has been discussed, Caesar obliges by first sending Labienus to the critical gap in the lines, then going himself to ensure that victory is achieved. He presents his men as faithful and sturdy, even more so than the walls they have toiled over in the days leading up to the battle, all of which rests on his own personal sturdiness, which, in turn, reflects his special relationship to the gods, or his pietas. This victory represents, therefore, more than just Roman technology and adaptability; it represents Rome’s, and by extension, Caesar’s unwavering fortitude and strength.

Conclusions: A Cracked Door and Many Open Windows
In the end, what is there to say about Caesar that has not already been said? What is there still to learn? This thesis was written to breathe new life into that daring man who risked everything, including life and limb, just to see himself sitting atop it all when it was over—and new skepticism into his account of the war in Gaul. Julius Caesar was extraordinarily cunning politically and militarily, and his writings show it. With the aid of the modern technology that allows the visualization of large-scale terrain in real time, we have been able to dive into Caesar’s account in a way as of yet untried and to try to catch a glimpse into his mind, mapping out his emotions, motivations, and decisions, all in an attempt to shine light on the several areas left less illuminated in the *Commentarii de Bello Gallico*.

However, the story neither begins nor ends at Alesia for Caesar, and it should not for students of the leader and *de Bello Gallico*, either. The digital world of hyper-reality has multiple possibilities for changing the way we think about ancient strategy, combat, and perhaps most importantly, manipulation of space. Sending the student to fight for or against the Gauls in a game is far more memorable than sending them home to read the account and then to regurgitate it on a written exam. And Alesia, although it was the end of the literary Gallic Wars, can be a beginning for students with no prior knowledge of the campaigns, sparking their interest in the Gallic Wars, the Roman military, or the life of Caesar. I have
made a start with the Siege of Alesia, but the rest of the Gallic campaigns remains, in a sense, an undiscovered country, waiting to be explored through the digital platform of hyper-reality. Through such hyper-real platforms, we could create a number of perspective shifts regarding Caesar’s actions, motivations, and how he reports his events. It is the hope of this project to begin that trend of perspective shift, and to encourage others to carry on this journey of illumination of Caesar and his men, who have been, despite centuries of study, soldiers in the dark.
Appendix

Figures

**Figure 1:** View from Mt. de Flavigny to the Northwest corner of the defensives, allowing for a view to the Les-Laumes plain. If Caesar ordered the cavalry charge, it was most likely from here. Screenshot, Alesia application.

**Figure 2:** View from the critical juncture where Vercassivellaunus attacked. If Caesar was here, he most likely would not have been able to see that the Gauls were open to a charge in the rear. Screenshot, Alesia application.
**Figure 3.** View from the western-most point of the Gallic oppidum. Vercingetorix would have held this view, and could therefore have seen much more than Caesar. Screenshot, Alesia application.

**Figure 4.** Photo from the oppidum looking to the site of the western Roman defenses. Photo by Tom McMahon.
Figure 5- Photo from the western Roman defenses to the oppidum. Photo by Tom McMahon.

Figure 6- View from Gallic reinforcement camp looking eastward across Alesia. Screenshot, Alesia application.
Figure 7- Diagram of the various Roman traps on either side of the walls (Edwards, 630).

Figure 8- Actual *stimuli* found on the field at Alise-Sainte-Reine. Photo by Tom McMahon.
Figure 9- The three types of ditches employed by the legionaries at Alesia, (Keeley, Fontana, and Quick, 59).

“V” Section (Fossa Fastigata)

Rectangular

Trapezoidal
Bibliography

Primary Sources


Secondary Sources


