

Europa Barbarorum, *EBmodmod* edition, v.2.0

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1. *Changelog*

Added non-Roman factions to the Github repository

2. Introduction

Rome: Total War (R:TW) is a critically acclaimed strategy game, created in 2004 by The Creative Assembly¹. Ground breaking at the time of its release, R:TW's video game technology was used for visualisation and battle re-enactment in a number of historical documentaries, such as Time Commanders² and Decisive Battles³.

Europa Barbarorum⁴ (EB) is a modification (mod) of the original Rome: Total War. Set in the same time period as R:TW, EB aims to provide a historically accurate alternative to the original game, which in some instances sacrificed historical accuracy to provide a better player experience⁵.

EBmodmod is, in turn, a modification of Europa Barbarorum. The name reflects its purpose: in this mod of a mod, I added some aspects which I believe further increase historical accuracy.

3. What changed versus Europa Barbarorum?

During the wars with the Samnites, the Romans adopted a battle formation which has vexed historians and wargamers for decades. Under the cost system of R:TW, which EB adopted, all but the most stubborn players give up on it. The textbook interpretation supposes that three quarters of the army stays out of combat until one line of soldiers is dead, before the next line engages, and the same thing happens. Historians have tried to explain this suicidal willingness (at least for first line soldiers) along the lines of “life was brutal back

¹<https://www.creative-assembly.com/>

²<https://www.imdb.com/title/tt0386245/>

³<https://www.imdb.com/title/tt0421095/>

⁴<https://www.europabarbarorum.com/EB1/>

⁵For example, Egypt during the time of R:TW was ruled by a Greek dynasty, and fought in the tradition of the Macedonian Successors. TCA gave Egypt a more “believable” unit roster, based on the way Egyptians fought during the period of Ramesses II, 1000 years earlier, relying on bow and chariot tactics which were outdated by the Roman period.

then, modern people can't understand". *EBmodmod* means to show that a more historical reflection of the economics of warfare, paired with an alternative reading of the original sources, provides a different interpretation for the Manipular army formation, which proves very effective in simulated gameplay.

A similar conundrum exists for the "barbaric" Gauls who, despite being accustomed to battle, often fought with little or no armor. This is puzzling, especially compared to the often heavily equipped Roman soldiers. Did the Gauls not care about the well-being of their sons fighting for their land and loved ones? Here, too, the economics of warfare and a different emphasis on the original sources offers an alternative explanation.

4. The Manipular Army



Figure 1: From left to right: medium armored Hastatus (pl. Hastati) armed with pilum and gladius, mobile Veles (pl. Velites) armed with javelins and gladius, heavily armored Triarius (pl. Triarii) armed with heavy spear, heavily armored Princeps (pl. Principes) armed with pilum and gladius.

From around 315 BC to the Marian reforms in 107 BC, the Roman army was organized in a series of independently operating battle units, called *maniples*. The manipular system has famously been likened to "a phalanx with joints": where the Greek battle formation typically organized in a line, the manipular structure of independently commanded battle

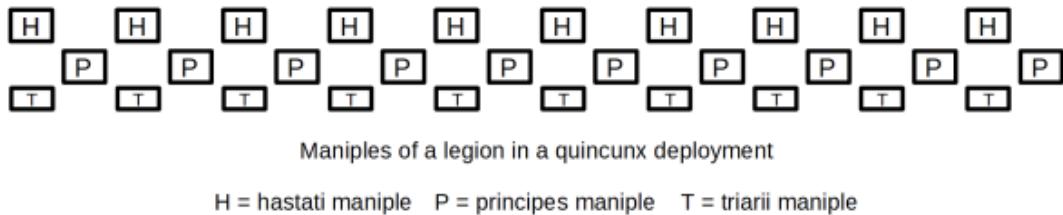
units allowed for greater tactical flexibility. Units could form in a line when needed, but were also capable of independent manoeuvre, when the tactical situation called for it.

Velites did not form their own units¹, but were assigned to maniples at a ratio of one veles to two infantry soldiers. The manipular infantry consisted of three types of maniples, typically 10 each:

- Hastati maniples (first line): 120 hastati + 60 velites
- Principes maniples (second line): 120 principes + 60 velites
- Triarii maniples (third line): 60 triarii²

4.1 Battle Formation

According to Roman sources, maniples positioned on the battlefield with gaps between the units, a deployment known as the Quincunx.



Historians have struggled to make sense of this, assuming that open lines are dangerous because the enemy can easily penetrate the formation. Opinions diverge, but most historians assume the Roman line units closed formation in some way, to form a single line right before contact with the enemy.

There are good reasons to assume the above is historically inaccurate. There would be no good reason to assign commanders to each maniple individually, instituting independent command and control, if all the maniples did was close the line and slug it out with the opposing force.

¹“they divide each class into ten companies, except the velites, and assign to each company two centurions and two optiones from among the elected officers. The velites are divided equally among all the companies” (Polybius 6:24)

²According to Polybius, triarii maniples also had velites assigned to them. I’ve omitted these under the Rome: Total War engine, which is restricted to a total of 20 units, velites included.

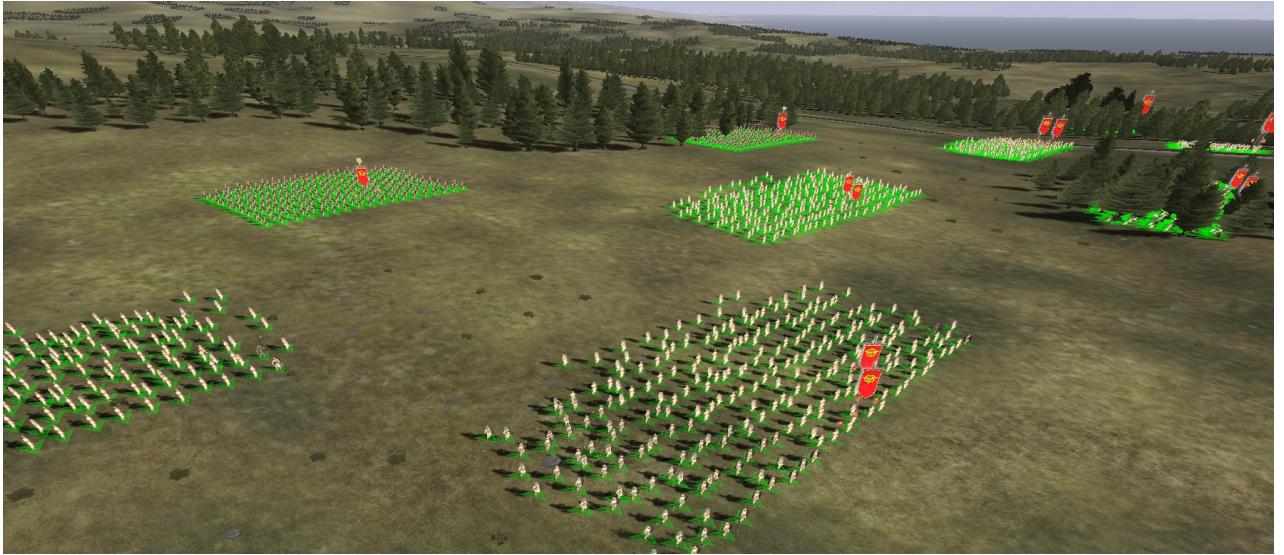


Figure 2: Quincunx deployment in *EBmodmod*. The army is facing the enemy towards the bottom right of the screen. Individual soldiers are highlighted in green. The first and second line maniples are augmented with Velites.

Simulation reveals the tactical strength of the quincunx formation. The key is to realize that due to the command structure, maniples were able to manoeuvre independently. Maniples could, of course, close the line when the tactical situation called for it. But maniple commanders also could, and we know they did, use manoeuvre to defeat the opponent. What maniples most likely did not do during battle was *stay* in a rigid quincunx formation. With the velites assigned to each maniple, Roman units were capable of fire and manoeuvre, and it is difficult to imagine that the Roman commanders didn't make use of all available tactical options, when the opportunity presented itself.

4.2 Fire and Manoeuvre

The fact that velites were assigned to a maniple, rather than operating as a separate unit, creates tactical possibilities that are under-emphasised in the literature, which generally assumes the velites gathered at the front of the army exchanging javelin fire with the skirmishers of the other army, before retreating to the back. Velites could fill the role of scouts and skirmishers, when needed, and Polybius (1:33) describes a frontal deployment of the velites as a provision against the Carthaginian elephants. But the fact that velites were assigned to a maniple, rather than operating as independent units, suggests a different intent. It is likely that Romans were the first to institutionalize combined-arms tactics at the unit level.

At a ratio of 2 infantry soldiers to 1 veles, a Roman maniple could occupy space, which the infantry soldiers could defend, thereby creating a pocket from which the velites could attack with their javelins, protected by the proximity of their more heavily armored brethren. This combined action, where the infantry soldiers control the ground, while the Velites attack at range, turns out to be very effective in simulation.



Figure 3: Hastati maniple, with velites highlighted in green taking shelter inside the formation.

4.3 *EBmodmod* Implementation

The Rome: Total War engine limits player armies to 20 units. The game also doesn't allow integrated units composed of infantry soldiers and javelineers operating together; Velites are implemented as separate units. This isn't a major restriction, but it does allow for ahistorical gameplay with Velites operating independently, which we know wasn't the case, as the Romans had no dedicated Velite commanders. For realistic gameplay, the player should assign a Velites unit to each of the Hastati en Principes maniples, and have these operating in close proximity to the maniple.



Figure 4: Textbook manipular army composition. From topleft to bottom right: Commander (cavalry, right flank), Hastati x4, Principes x4, Campanian Cavalry (javelin cavalry, left flank), Velites x8, Triarii x2.

4.4 Hastati, Principes and Triarii



Figure 5: From left to right: Princeps with *gladius* in defensive stance, Hastatus throwing a *pilum*, Triarius with heavy *hasta* spear.

The classic Roman soldier was outfitted with a *pilum*, a type of heavy javelin, occasionally a second, lighter javelin, and a *gladius*, a type of short sword. How the Romans used this equipment in combat has been the subject of considerable debate. The Romans themselves claim that a unit would first throw their *pila* to soften up the enemy, draw their swords, and charge.

While probably this was indeed their *preferred* method of combat, as the tactic can be highly successful by breaking the opposing unit through force of shock, it is unlikely that this was the only battle tactic employed by the Romans. We know that a Roman battle could last for most of the day. With only one pilum per soldier, it is hard to imagine what the Romans were doing when they weren't throwing a pilum and charging, since during pitched combat, the average man will be exhausted in a few minutes at best. Most likely, the Romans reserved their *pila* for the critical moment, when there was an opening to deliver a shock attack to decide the battle. Until then, the pilum could also be used as a defensive melee weapon, as it offers a longer range than the short sword.

In *EBmodmod*, the Hastati do not throw their pilum at the enemy, but use it as a melee weapon for fending off enemy cavalry and/or infantry throughout the battle¹. They will throw their light javelin. This is reflected by a lower damage value for the Hastati ranged attack, which is offset by a higher defense value against cavalry, as the pilum can be used as a spear. Overall, the Hastati unit reflects a defensive disposition, as would be expected from inexperienced recruits during their first few battles: their job is to hold their position, until the more experienced Principes can assist.

The Principes, being more experienced in combat and therefore more confident, do throw their pilum before charging into battle, in the classic Roman style. This is reflected in a high damage for the ranged attack. This means the Principes lack a defense bonus against cavalry, and their willingness to be more aggressive while attacking is reflected in a slightly lower shield bonus. As such, Principes are better attack units than Hastati, while Hastati are better defense units than Principes. This arrangement fits the quincunx deployment well, as the Hastati form the first line of defense, with the Principes engaging to assist.



Figure 6: Improvised manipular army composition. The more experienced Hastati fill in for the Principes, forming the second line in the quincunx. Two units of Pedites Extraordinarii fill in for the Triarii.

The Triarii form the ultimate reserve unit. Since they are few, keeping these men out of combat does not compromise the overall strength of the army. Because they are equipped with heavy *hasta* spears, Triarii have both defense and attack bonuses against cavalry. Their position on the third line gives them a range of options during combat, from plugging a gap in the formation caused by the front units manoeuvring out of position, to providing the decisive charge at the end of the battle against a worn down enemy, while having remained

¹Historically, these men would need to switch to their short sword eventually, as spears are prone to breaking. There is no way to implement this feature in *EBmodmod* since it isn't built into the Rome: Total War engine, but this isn't much of a problem, since it would not affect the outcome of a simulated battle too much.

out of combat, and therefore fresh and rested, themselves. Due to their experience, the Triarii have the highest melee attack and defense values of all the Roman infantry, but this is offset by their heavy equipment: during prolonged combat, Triarii will wear out quickly.

5. Battle Tactics

Roman sources on battle tactics are scant on specifics. Part of the reason is the classic problem that people only explain what isn't common knowledge. Since all Romans were expected to go through military service, many aspects of Roman warfare that were obvious to the Romans weren't written down.

The infantry of the textbook manipular army consisted of 30 maniples, equally divided between Hastati, Principes and Triarii. Due to engine limitations¹, *EBmodmod* is restricted to 4 units of Hastati and 4 units of Principes, each with accompanying Velites, and 2 units of Triarii.

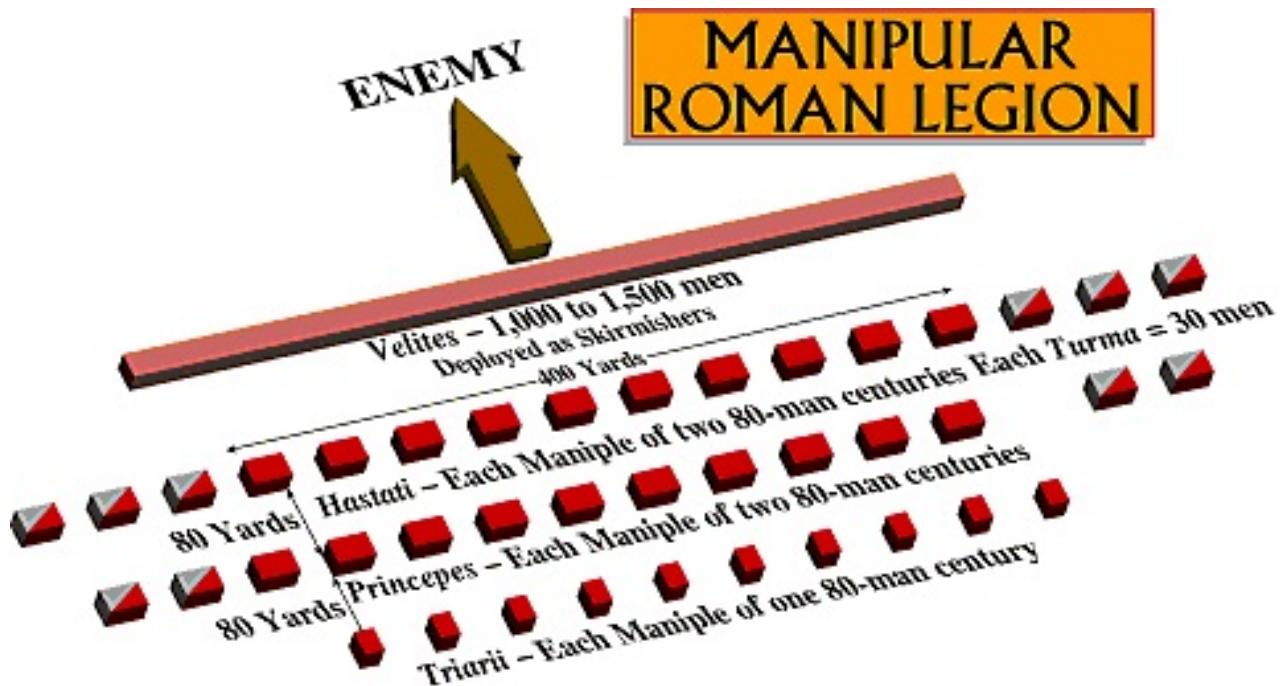


Figure 7: The textbook interpretation of the Manipular army formation, with velites at the front, cavalry on the flanks, and three lines of infantry in the center.

¹Gameplay wise this is a good thing, as keeping track of 30 units would be quite a challenge. It is interesting to note that in the tactical command role, the task of the player is actually harder than the real-life situation, as each maniple had its own set of commanders for carrying out the directions of the army commander during the battle, whereas the player has to direct all units on both the strategic and the tactical level.

5.1 Single Unit Tactics

The tactical possibilities on the unit level mainly derive from the interaction between the infantry (Hastati or Principes) and the Velites. Co-operating with the infantry allows the Velites a range of tactical possibilities:

- Take shelter within the formation during archer or slinger fire.
- Take shelter *behind* the formation to avoid incoming javelin fire.
- Attack from range using javelins, while being protected from melee, by operating from behind or within the formation.

Because maniples are self-sufficient in terms of command, they can be directed to take a position and hold it, allowing an army commander to make use of the terrain in a much more flexible way than is possible with an army rigidly formed in fixed lines.

5.2 Army Tactics

The manipular formation really shines when maniples start working together. Figure 8 shows the ideal situation: a Hastati maniple has been engaged by the enemy, while a Principes maniple moves in to flank the enemy. The velites (highlighted in green) of the Principes unit will throw javelins at the exposed rear of the enemy, while the infantry soldiers position for a charge. In the back, a Triarii maniple stands by in reserve.



Figure 8: A Hastati maniple, in the forefront, is being engaged by two enemy units. A flanking unit of Principes, at the top right of the screen, moves in to assist, while a Triarii unit in the back stands by in reserve.

Figure 9 shows a small Roman army, deploying to make use of the available terrain. Two Hastati maniples occupy the edge of the forest at the top of the figure; another Hastati unit, on the first line, at the bottom of the image; and a Principes unit on the second line, at the left of the image.

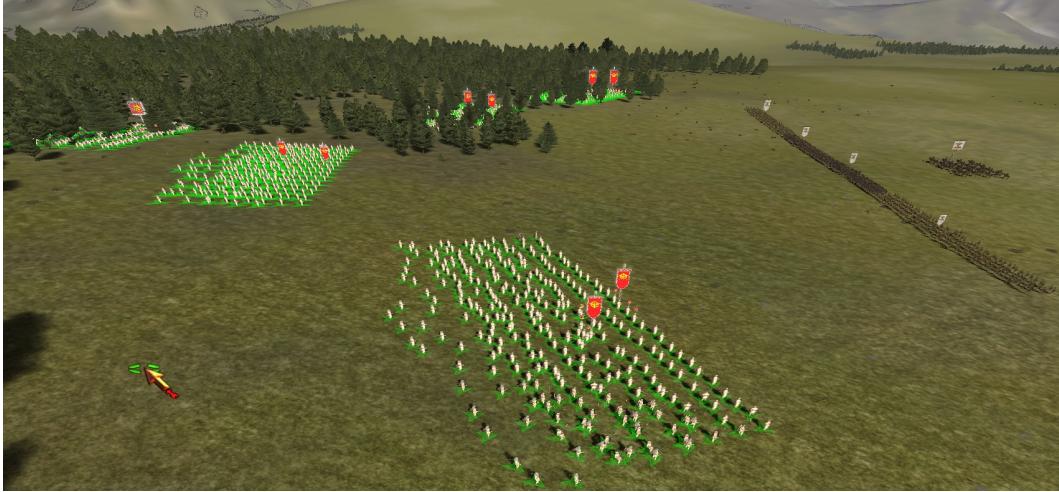


Figure 9: Roman manipular army, highlighted in green, facing an enemy army formed in a fixed line, with closed ranks, on the right.

Despite the apparent gap in the center on the first line, the enemy cannot easily penetrate it, as the area is covered by javelin fire from the first line Hastati units and the second line Principes unit, as well as a charge from the Principes using their pila for shock effect. The fifth unit, in the back, is the commander directing the army, accompanied by his bodyguard of cavalry, waiting for an opportunity to intervene in a critical area, once the battle has begun.

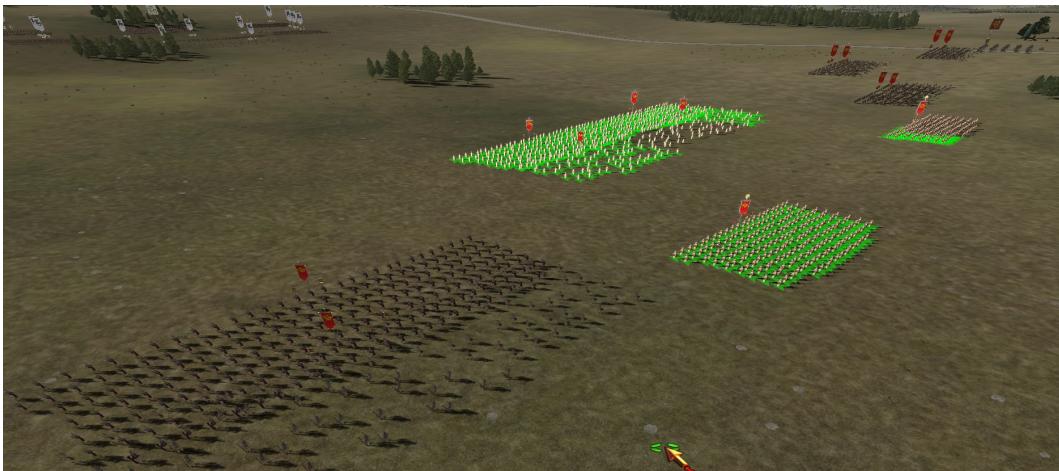


Figure 10: Large Roman manipular army, with center units on the first (Hastati) and third (Triarii) line highlighted in green, facing an enemy army, at the top left of the screen.

In Figure 10, a larger Roman army faces off against a Carthaginian army at the top left of the image. The Roman commander has positioned two Hastati units side by side to form a strong center, supported by two Triarii units positioned on the third line. On each side, a

unit of Hastati and two units of Principes, on the first and second row respectively, form the flanks of the army, accompanied by a unit of cavalry.

Figure 11 shows a manipular army organised in three distinct battle groups. The Roman right flank (1) and center (2) have been engaged by the Carthaginian vanguard, while the Roman left flank (3) has manoeuvred into the right flank of the enemy army, taking advantage of the position upon the hill. In this battle, the Carthaginian phalanx center (4) failed to assist the vanguard, leading to its defeat. This relatively open, mobile battle style is particularly difficult for phalanx armies to counter, consistent with the historical record: the Macedonian phalanx formations were soundly defeated by the more flexible Romans on both encounters (the battles of Pydna and Cynoscephalae).

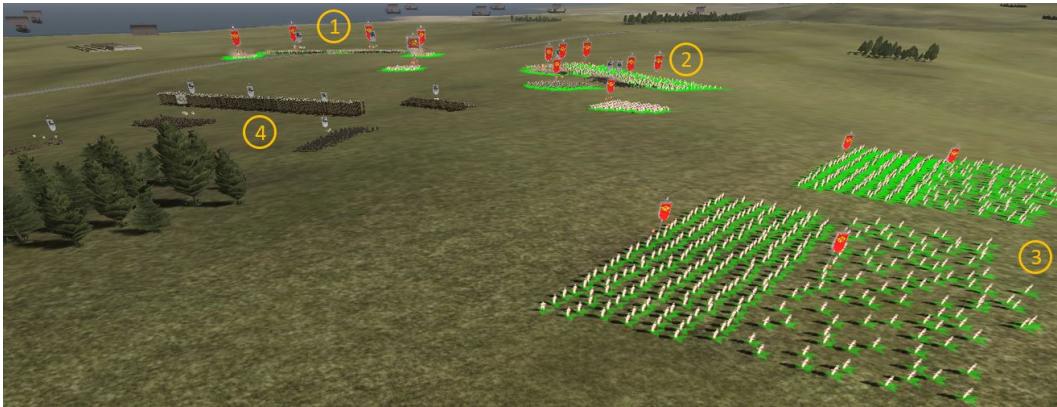


Figure 11: Roman army, highlighted in green, engaging a Carthaginian army. 1: Roman right flank, 2: Roman center, 3: Roman left flank, 4: Carthaginian center.

5.3 Open or Closed Ranks

In modern textbooks, Roman soldiers are typically depicted in closed ranks, shields locked together. Whether the Romans fought like this is a matter of debate. We know from original sources that soldiers were trained to maintain a carefully balanced spacing, leaving enough room for the men to fight, but not so much room that the men couldn't immediately assist one another:

No part of drill is more essential in action than for soldiers to keep their ranks with the greatest exactness, without opening or closing too much. Troops too much crowded can never fight as they should, and only embarrass one another. If their order is too open and loose, they give the enemy an opportunity of penetrating. (Vegetius, *De Re Militari* I:26)

In simulation, I find Rome: Total War's open formation, which leaves enough room between the ranks for other men to pass through, vastly superior to the closed formation. The latter has its uses, typically in enclosed space such as city combat. In battles on open ground, units in open formation cover more terrain, resulting in more space for manoeuvring,

thereby opening up tactical possibilities that would not be possible in closed file, closed line deployment.

5.4 What about Archers?

Archers invariably played a minor role in Greek and Roman armies. At the famous battle of Marathon, a Greek infantry-based army soundly defeated a larger Persian, archer based army by charging the Persian lines, at which point the archers lost their advantage.

In fact, during the Republican period, the Romans didn't use archers at all. Slingers (*accensi*) are attested, but similarly, their role during the battle was one of support, if any. Battles tended to be fought on relatively open ground, where heavier infantry and cavalry units could manoeuvre to close the distance with enemy archers, thereby negating the only advantage archers enjoy. The classic "spear wall with archers in the back", which the Persians deployed at Marathon, does not work against an equally sized manipular Roman army on open ground, as the outmost maniples, and especially the cavalry, can simply manoeuvre around the shield wall on both flanks, and rout the archers.

This is not to say that archers can't be useful, if they can be protected. But this is mostly limited to enclosed positions, like protecting a bridge, or during siege warfare.



Figure 12: Two cavalry men in a scouting role, receiving directions from a Veles.

5.5 Roman Cavalry

Cavalry played an important, if for the Romans rarely decisive, role on the battlefield. While cavalry is usually depicted as heavy cavalry, delivering a decisive blow with a massive charge, Roman cavalry tended to be light and mobile. In Roman armies, the infantry did the heavy lifting, and the cavalry supported the infantry. In the supportive role, the mobility of the light Roman cavalry was a great asset, as it allowed the cavalry to manoeuvre around the battlefield to assist where needed, as well as quickly closing with and routing an isolated ranged or fleeing unit.

6. The Economics of Roman Warfare

In Rome: Total War, "better" units are more expensive to raise and maintain, with the maintenance cost for each turn set at 25% of the purchasing cost of a new unit. However, we know from historical sources that Roman soldiers earned the same wages, regardless of whether they fought as "cheap" Velites or "expensive" Triarii. Higher wage categories (duplicarius and up) were reserved for officers, or as individual rewards for bravery.

In *EBmodmod*, the cost of raising a new unit increases with the quality of the new unit's equipment, as in Rome: Total War. For example, on a soldier to soldier basis, training a new unit of Hastati costs more than training a new unit of Velites. The cost of maintaining a unit, however, only depends on the number of soldiers in the unit. Exceptions are made for elite units (+25% wage cost) and militia units (-33% wage cost), which is reflected in the morale of these units. Militia soldiers are paid lower wages, and therefore, are less likely to "die for their country".

Because the maintenance cost of each unit is the same, it makes economic sense to place the units that are more expensive to *replace* towards the rear of the army. This is due to the monetary cost (a new unit of Triarii is more expensive than a new unit of Principes or Hastati), and a non-monetary restriction: because Principes and Triarii can only be trained from experienced soldiers, there is a natural scarcity of these men, making these units extra valuable and therefore, worth keeping off the first line of combat.

6.1 Barbarians, Regional troops, and Mercenaries

Historically, the Gauls would regularly form warbands, offering their services as mercenaries to the highest bidder. Unfortunately, we have no historical data on wages for "Barbarian" factions, like the Gauls, Germans or Getai. It is likely that mercenary "market forces" dictated the price a Barbarian warlord had to pay for the loyalty of his men.

To reflect this, *EBmodmod* uses the regular Rome: Total War unit cost system for Barbarian factional units, mercenary units, and units purchased from regional barracks. This means that under this model, better units are more expensive to hire and maintain. The difference in unit cost mechanics appears to explain the historically observed difference between "barbarian" and "civilized" factions: under the "Barbarian" cost system, it is economically rational to deploy lots of cheap units, and if an expensive unit is present in the army, it will typically be placed where the heat of the battle is most likely to occur, rather than held in the back as a reserve, like with Triarii.

7. The Imperial Roman Legion



After the reforms of Marius in 107 BC, the Roman army was gradually transformed. The Roman commanders did away with Velites, Hastati, Principes and Triarii. Instead, the Roman infantry soldier's equipment and fighting style became highly standardized: an imperial legion's infantry consisted of identically equipped "legionnaires".

This transition coincided with a shift in ownership over the army. In the Republican period, armies were commissioned by the Senate, and a general was appointed to them. Starting with Gaius Marius, Roman generals progressively wrested control over the armies away from the Senate. Generals like Julius Caesar paid for their armies entirely from their own pocket. This may explain the disappearance of the different classes of Roman infantry; as Roman generals paid their soldiers from their own pocket, they wanted the "best bang for the buck": a standardized, heavy infantry soldier, who could hold the line if necessary.

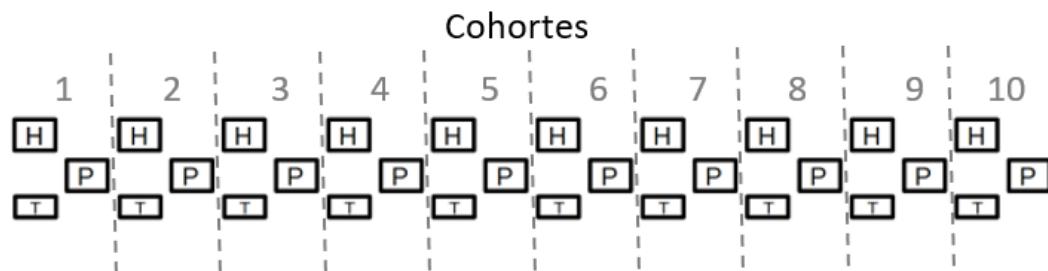


Figure 13: Triplets of cooperating maniples were grouped into Cohorts. Velites, Hastati, Principes and Triarii were replaced by all-round "Legionnaires".

The Roman army was also reformed on a command level. Triplets of naturally cooperating maniples, by position, were grouped into larger tactical units, called cohorts. The new cohort command level allowed for independent tactical coordination between maniples, simplifying command and control for the legion commander. Entire cohorts could now be directed to a position, and function independently from the rest of the army. Cohorts were essentially self-sufficient mini armies, comparable to the Battalions of modern armies, today.

7.1 Scorpions and Ballistae

The disappearance of the velites coincided with the adoption of the Scorpion as the standard ranged weapon of the Roman army. This transition may reflect a trend towards more professional battlefield opponents, such as the Greeks, who wore body armor which javelins would not have been able to penetrate reliably.

In terms of firepower, each of the three maniples of a cohort were divided into two *centuria* of 80 (later 100) men. Each century was issued a *scorpion*: a torsion-based, long range anti-personnel weapon. In addition to the six scorpions, each cohort was also issued a *ballista*: a larger field artillery weapon, functioning on the same principle as the Scorpion, but sacrificing mobility for greater firepower. Ballistae (confusingly called Catapultae by the Romans, not to be confused with the Onager siege weapon) could be loaded with large bolts for an anti-infantry role, or with boulders to attack city defenses.

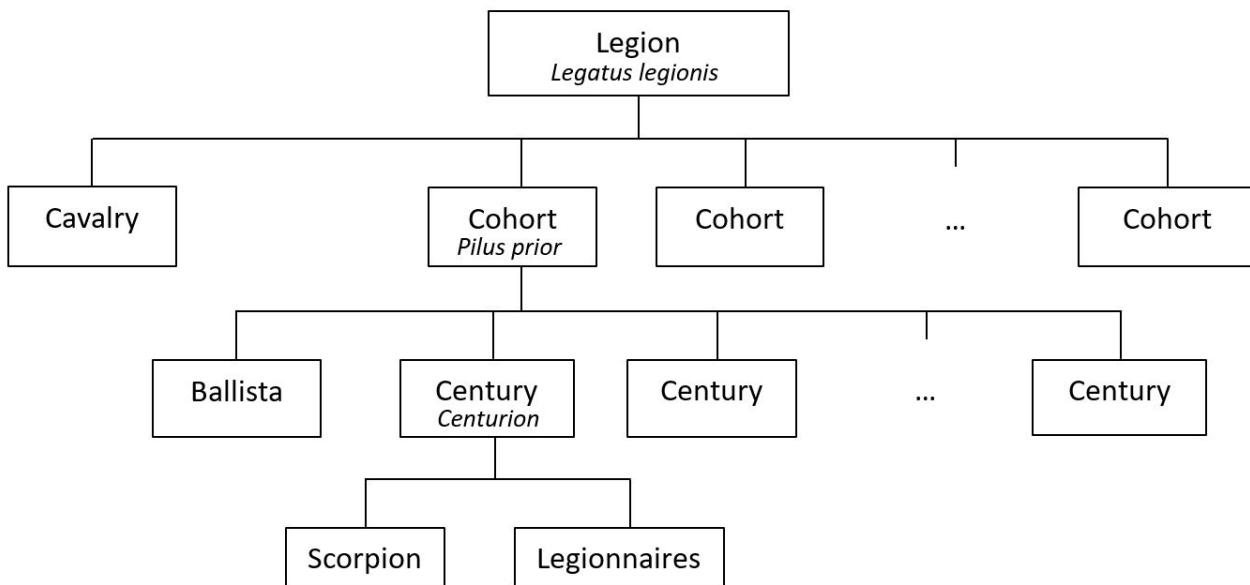


Figure 14: In the Imperial legion, the *Legatus legionis* directed the 10 cohorts, the deployment of the cavalry, and any other legion-level command. For each cohort, the *Pilus prior* directed the 6 centuries, and the deployment of the ballista. The *Centurion* of each century directed the deployment of the Scorpion team, and managed the infantry under his command.

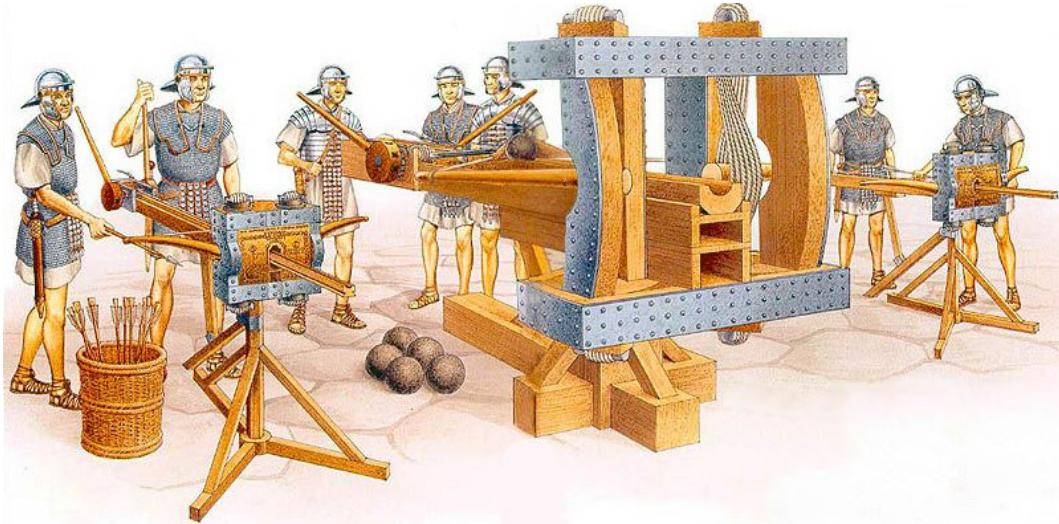


Figure 15: Ballista (center) and two Scorpions (left and right).

7.2 *EBmodmod* Imperial Army Structure

The Rome: Total War engine allows us to replicate a small Imperial legion, consisting of four cohorts, by allocating the 20 units allowed to the player as follows, illustrated in Figure 16:

- 1 legion Commander with bodyguard cavalry
- 1 legion level Ballista battery, consisting of the four cohort ballistae
- 2 legion level units of Cavalry covering the flanks
- 4 infantry cohorts consisting of:
 - 2 maniples of first line legionnaires (Antesignani)
 - 1 cohort level Scorpion battery, consisting of six scorpions
 - 1 maniple of second line legionnaires, protecting the scorpion crew, ready to assist the first line if necessary.



Figure 16: *EBmodmod* Imperial army, consisting of the commander bodyguard cavalry and four-piece ballista battery (left), mercenary Numidian light cavalry (right), and four cohorts, each consisting of two first line maniples, one second line maniple, and a six-piece Scorpion battery.

7.3 Playtesting the *EBmodmod* Imperial Army

The same infantry tactics that functioned well for the Republican manipular army - first line maniples using their pilum as a defensive melee weapon against cavalry, and second line maniples assisting as a flanking unit by throwing their pilum at the enemy before charging - also work well for the Imperial army infantry. This isn't too surprising, given that Imperial cohorts simply officialized the inter-operating maniples of old.

However, the presence of the torsion-powered field artillery, capable of projecting a deadly field of fire out to 400 meters, is a game changer. Once the enemy army comes in range, they are forced to assault the Roman positions, or face attrition from artillery fire. This puts the heaviest armed enemies under the greatest disadvantage: as body armor is of no use against an incoming scorpion bolt¹, whereas wearing armor will cause soldiers to become fatigued. The heavier the enemy is equipped, the more tired they are by the time they reach the Roman lines. In contrast, the Roman infantry can wait for the enemy to get in range, and engage the charging enemy, while being rested themselves.

This suppressive effect of artillery against armor would support a trend towards soldiers wearing *less* armor, something which has been suggested by the late Roman author Vegetius, but tends to be dismissed by modern historians.

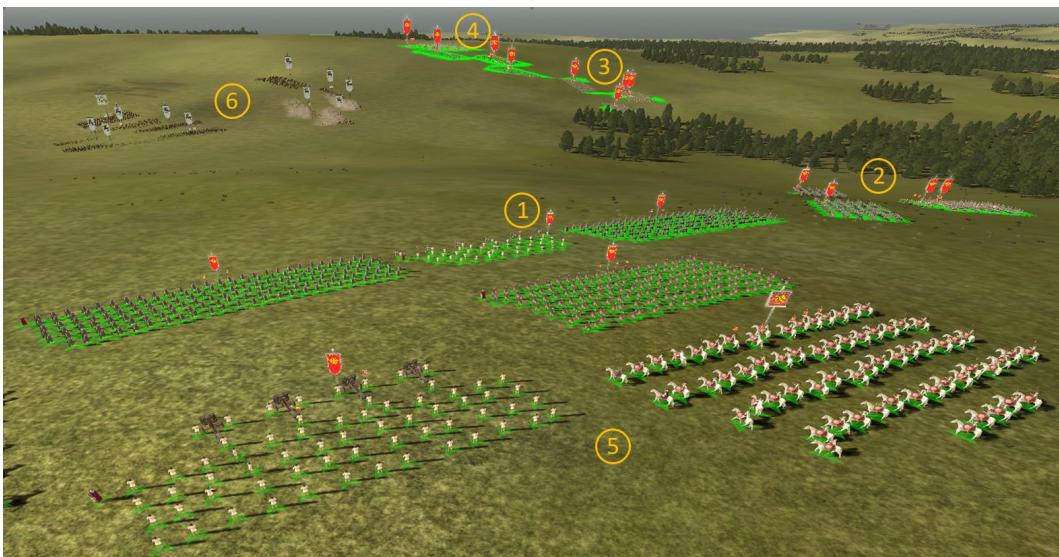


Figure 17: Cohorts (1) and (2) occupy the high ground at the bottom of the screen. At the top, Cohort (3) and Cohort (4), flanked by cavalry, occupy the other hill. The commander is positioned at the top of the hill at the bottom of the screen, near the ballista battery (5). The Carthaginian army (6) has dispatched the vanguard to assault the far hilltop, against which the maniples of cohorts 3 and 4 will defend.

¹Body armor could make a difference between life and death, but a soldier hit by a bolt will definitely be out of action for the rest of the battle.

At the same time, the Roman artillery is no panacea. Its range, short by modern standards, would have allowed a determined enemy to quickly close the distance, negating the artillery advantage. This could explain why the ratio between artillery and infantry during the Roman period (6 scorpions and 1 ballista per 480 soldiers) was relatively low: battles were still mainly won by tactical infantry and cavalry deployment.

7.4 Tactical flexibility

The cohort system allowed for a great deal of tactical flexibility. Since not every situation lends itself well to the use of artillery, Roman could and did adapt to the tactical situation, both at the legionary and at the cohortal level. Of note, the following cohort variations are attested:

- Cohors Alaria: cohort with allied, auxiliary or mercenary unit(s)
- Cohors Equitata: cohort with attached mounted squadron
- Cohors Sagittaria: cohort with attached auxiliary bowmen
- Cohors Tumultuaria: irregular cohort (*tumultus* = chaos)

Other, more specialized cohorts variations also existed.

In *EBmodmod*, replacing the scorpion battery with a more tactically appropriate unit allows a cohort to adapt to the situation in the field. Since a cohort is largely composed of heavy infantry legionnaires, good auxiliaries tend to be specialised in other fields. Archer or slinger units are a good alternative to artillery, sacrificing range and power for greater mobility, useful in mountainous environments. An attached unit of light cavalry would prove useful against enemies heavy on archers and slingers. For assaults on enemy positions protected from artillery fire, such as a hilltop, an attached unit of specialized assault infantry, such as axemen, would prove useful.

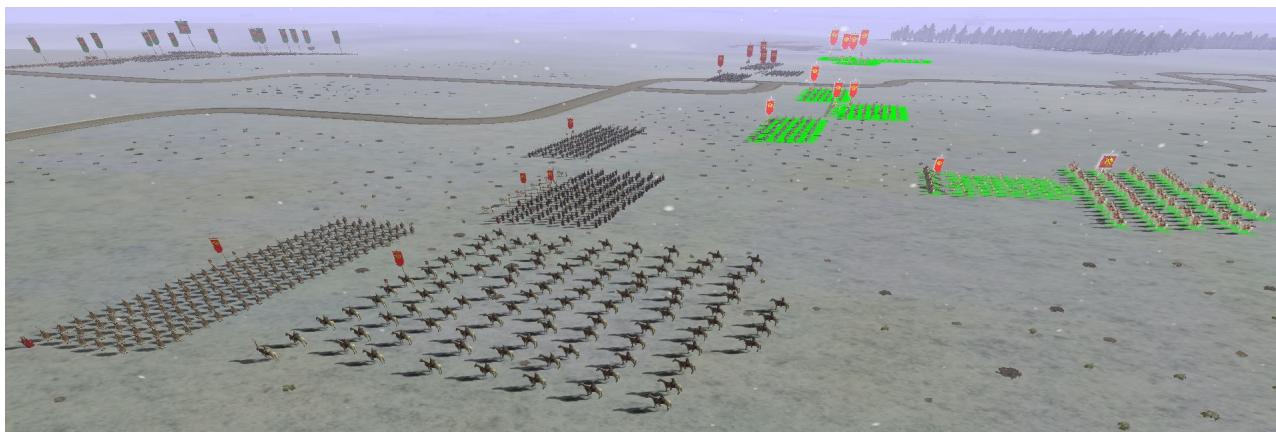


Figure 18: Imperial army in *triplex acies* formation, with cohorts on the second line and commander on the line highlighted in green, facing an enemy at the top left of the screen.

At the level of the legion, a tempting replacement for the ballistae (based on the situation) is a division of heavy cavalry, which Roman legions typically lack. The light cavalry on the wings tends to be irreplaceable, since the infantry consists of heavily armored soldiers, ill-equipped to chase a fleeing enemy.

7.5 The Late Imperial Period

8. The barbarians

The original reason for the Europa Barbarorum team to create a mod, reflected by its name meaning “Europe of the Barbarians”, was to create a historically realistic rendering of the Gauls. Later, the team expanded the mod to all factions in the game.

In *EBmodmod*, some factions use the

To switch to the Arverni, copy DESCR_MERCENARIES.txt into the EB/Data/world/maps/campaign/imperial_campaign folder, and the other two files into the EB/Data folder:

EBmodmod Files > By Faction > Arverni > Files to Copy into RtW			
Name	Date modified	Type	Size
DESCR_MERCENARIES.txt	12/04/2020 11:40	TXT File	37 KB
export_descr_buildings.txt	12/04/2020 11:40	TXT File	13.051 KB
export_descr_unit.txt	12/04/2020 11:40	TXT File	485 KB

9. Installation

EBmodmod is built upon Europa Barbarorum version 1.2, which in turn is built on the original Rome: Total War game. Installation requires three steps:

- Installing the original Rome: Total War game version 1.5
- Installing Europa Barbarorum version 1.2
- Replacing some EB files with the *EBmodmod* files

9.1 Installing the original Rome: Total War

You will need the 2004 Rome: Total War to install this mod¹. As of this writing, the *Rome: Total War™ - Collection* is available from Steam at 12,99€.

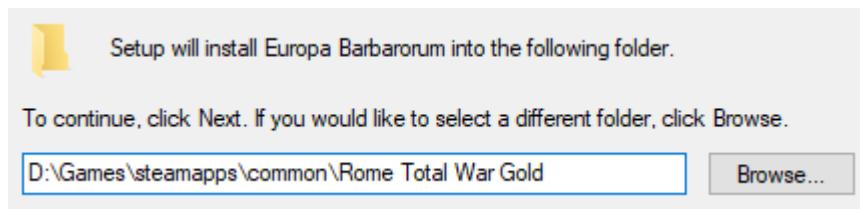
This Steam version of the game, Rome Total War Gold, comes installed with the latest patches². The game can be installed on any drive, but do keep track of where you install the game - you will need this location during installation of the Europa Barbarorum mod.

9.2 Installing Europa Barbarorum

EBmodmod is a modification of the first edition of Europa Barbarorum (EB1)³. Installing EB1 happens in two steps: first the EB 1.1 full version needs to be installed, followed by the EB 1.2 patch. The installation files can be obtained via the following links:

- <https://www.moddb.com/mods/europa-barbarorum/downloads/europa-barbarorum-11>
- <https://www.moddb.com/mods/europa-barbarorum/downloads/europa-barbarorum-12-patch>

During the installation of Europa Barbarorum, it is important to direct the installer to the Rome - Total War folder where RomeTW.exe is located. For the Steam version of the game, this is the “Rome Total War Gold” folder which Steam created under /steamapps/common. For example, I installed the game under D:/Games, which makes for the full install directory:

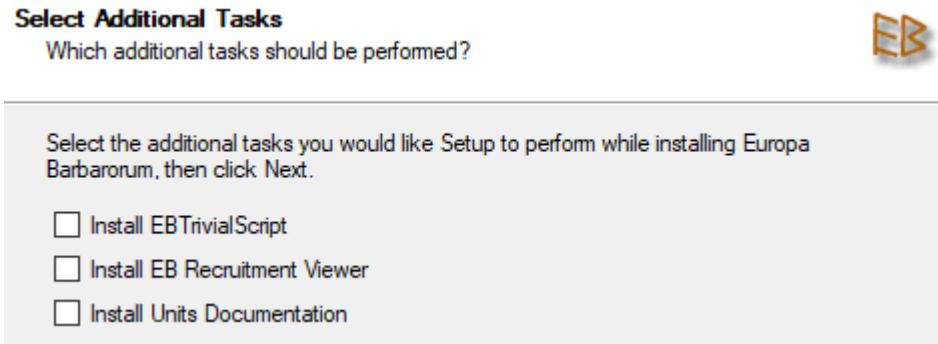


¹In 2013, Creative Assembly released Rome: Total War II; Europa Barbarorum is incompatible with this game.

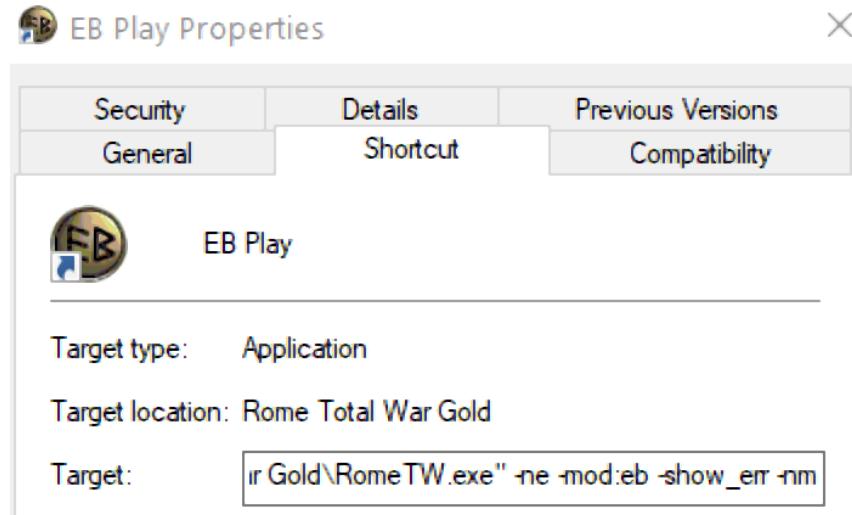
²Older versions of the game should be upgraded to the 1.5 version before continuing to the next step. The 1.5 Official Patch can be obtained from <https://www.moddb.com/games/rome-total-war/downloads/rome-total-war-v13-to-v15-patch>.

³The Europa Barbarorum team has been working on a second version of the mod, which runs on the Medieval II: Total War engine.

The Europa Barbarorum installer will offer to install some optional elements, which can be skipped:



After installing the EB files, there should be an additional folder called “EB”, containing the Europa Barbarorum files, in the same folder as RomeTW.exe. There will also be an “EB Play” shortcut, which needs to be modified. To do this, rightclick the shortcut and select Properties. Under Target, change the part that says “-show_err” to “-ne -mod:eb -show_err -nm”, as follows:



At this point, the original Europa Barbarorum mod should be playable by doubleclicking the EB Play shortcut, although the window will be small. You can change the size of the window under Video Settings, below.

Optionally, the Rome: Total War Collection comes with the Alexander expansion, installed in a separate folder. The Alexander engine is considered by some to have better AI than the basic RomeTW.exe. To migrate the Europa Barbarorum installation to the Alexander directory, follow these steps:

- Copy the EB subdirectory into “Rome Total War Alexander”

- From EBmodmod Files/Alexander, copy EB.bat to “Rome Total War Alexander”
- From EBmodmod Files/Alexander, copy *chat_filter.san* to “Rome Total War Alexander/EB/Data”

9.3 Installing *EBmodmod*

The *EBmodmod* files can be downloaded via the following link:

<https://github.com/KevinHoefman/EBmodmod/raw/master/EBmodmodFiles.rar>.

To switch from Europa Barbarorum to *EBmodmod*, copy the EB folder, found inside “EBmodmod Files”, into the “Rome Total War Gold” directory. Click yes to Replace the files in the destination. This needs to be done only once.

The files inside “EBmodmod Files/By Faction” need to be copied into the game folder each time the player wants to switch factions. For example, to play the Romani faction, the files in “EBmodmod Files/By Faction/Romani” need to be copied into the following locations:

- Rome Total War Gold/EB/Data/world/maps/campaign/imperial_campaign/DESCR_MERCENARIES.txt
- Rome Total War Gold/EB/Data/export_descr_unit.txt
- Rome Total War Gold/EB/Data/export_descr_buildings.txt

9.4 Launching *EBmodmod*

Since *EBmodmod* works by replacing key Europa Barbarorum files, launching *EBmodmod* is the same as launching Europa Barbarorum. The game can be launched by doubleclicking “EB Play” inside the Rome Total War Gold folder, or “EB.bat” from the Alexander folder.

10. Your first Europa Barbarorum (*EBmodmod*) campaign

10.1 Video Settings

When Rome: Total War was first released, most home computers were unable to run it with full features. For the full experience, I would recommend setting the Video Options to high. The battle and strategy map resolutions need to be set to your screen resolution. Of all the options, setting Unit Scale to Huge will give the biggest benefit.

You can access the video options by picking Options -> Video Settings on the startup screen, and ticking the Show Advanced Options box.



10.2 Starting a New Campaign

To start a new campaign, launch Europa Barbarorum. From the startup screen, choose Single Player -> EB Main Campaign. This brings you to the EB Main Campaign window:



For a first *EBmodmod* playthrough, I would suggest the following settings:

- Campaign Difficulty: this value changes the amount of money AI factions receive at the start of every turn. I would suggest Medium or Hard Difficulty.

- Battle Difficulty: this value changes the attack and defense values of AI units in battle. I would suggest leaving it on Medium Difficulty.
- Faction: choosing the Romani faction will start the Roman campaign.

10.3 The Campaign Window

Europa Barbarorum introduces a few peculiarities compared to the original Rome: Total War. These are marked on the first game screen, below:



1. Each time the game starts, the Europa Barbarorum script, which controls the EB game experience, must be manually activated. You do this by clicking on the Advisor's image, then clicking on the "Show Me How" button below him, and clicking the Advisor's image again. When you start a new campaign, the Advisor will appear automatically for you to activate the script. When you load the game from a save file, you need to click on a city to activate the script. I always then click on a different city again, to verify if the script is activated - if it isn't, the Advisor will appear again. It is a bit tedious, and in the beginning you will forget to activate the script a number of times. But there was no other way for the Europa Barbarorum team to implement this.
2. Fleets are expensive, and you will not have a lot of funds at the start of a campaign, nor much use for a fleet. I tend to disband my fleet at the beginning of the campaign.

3. The diplomat and the spy are useful special units to talk to other factions, and spy on them, respectively.
4. Clicking on a city brings up the buildings in Town tab, shown at the bottom of the campaign window. Europa Barbarorum introduces new buildings to create a different game experience.
5. In Europa Barbarorum, the game progresses through different eras, which unlock different units. This indicator shows we are in the Camillan Era, which is where the Roman campaign starts.
6. In Europa Barbarorum, armies are separated into units that belong to the main faction of the campaign, and regional units which the player can hire to augment their army. Regional units vary from region to region, hence the name. The government building controls how far the factional and regional barracks¹ can be upgraded:
 - Type 1 government: level 5 factional barracks, level 2 regional barracks
 - Type 2 government: level 4 factional barracks, level 3 regional barracks
 - Type 3 government: level 3 factional barracks, level 4 regional barracks
 - Type 4 government: level 2 factional barracks, level 5 regional barracks

When conquering a city, you should remove any existing government buildings and barracks, then build your own. In the *EBmodmod* files, I provide an overview of which units can be trained in which city, by faction and type of barracks.

7. Arpi, the city selected in the campaign window above, has a level 2 factional barracks, shown here. It does not start with a regional barracks. There are rules, by faction, dictating where barracks can be built. For example, during the Camillan era, the Romans can build factional barracks only in their starting cities.

11. Features implemented in *EBmodmod*

11.1 Citizen unit cost system

As any wargamer learns pretty quickly, cost is a vital element in warfare. In fact, the ancients blah blah. While we don't have written sources for the Gauls and other "barbarian" tribes, it is highly probable that these warleaders were also keenly aware of the limits cost posed on their ability to command.

Military units in Rome: Total War have a cost of hiring a new unit, and an upkeep cost that is paid for each turn.

In classic Rome: Total War,

¹These are called MICs, for Military Industrial Complexes, in the Europa Barbarorum documentation

11.2 Roman Republic progression system

In the Republican period, the Roman infantry, being the dominant part of the Roman army throughout the period covered by Europa Barbarorum, was separated into four categories of soldiers based on experience and equipment. The least experienced soldiers entered the army either as *Hastati*, the first line infantry soldiers, or as *Velites*, mobile javelin throwers who were not expected to hold a line in combat. After gaining some experience, soldiers would then progress to the category of *Principes*, the second line of infantry soldiers.

Based on experience, equipment and (probably) social standing, some *Principes* progressed to the category of *Triarii*, a reserve third line of experienced, hardened, and heavily equipped soldiers:

- Novice soldiers, recently progressed to military age:
 - Velites: mobile javelin throwers
 - Hastati: first line infantry soldiers
- Principes: more experienced second line of infantry
- Triarii: a battle hardened, heavily equipped third line of infantry

Unfortunately, the Rome: Total War engine does not provide a built-in system for unit progression. I've implemented the mechanisms in *EBmodmod*, but it's up to the player to play according to the unit progression rules, by following the unit disbanding requirements, described below:

1. All units except *Principes* and *Triarii* can be freely recruited.
2. To recruit a unit of *Principes*, you must first disband one of the following:
 - One unit of *Hastati* with at least 2 experience
 - Two units of *Velites*, *Leves* or *Rorarii* with at least 3 experience, or two units of *Accensi* with at least 4 experience
3. To recruit a unit of *Triarii*, you must first disband one of the following:
 - One unit of *Principes* with at least 2 experience
 - Two units of *Pedites Extraordinarii* with at least 3 experience
4. Units being disbanded for progression must have a unit strength of at least 90%.
5. *Principes* and *Triarii* units should not be retrained (as this restores them to full strength).

11.3 Roman Imperial progression system

Starting with the Marian reforms, the Roman unit roster reflects the Roman army of the imperial period. Roman soldiers are mostly standardized, although there are some nuances (Antesigniani, Auxiliae). The unit called Cohors Evocata are experienced soldiers who re-enlist in the military after their normal military duty has ended. Functionally, they are equivalent to Legionnaires with 2 experience.

The following system allows for other units to upgrade to Cohors Evocata:

1. All units except Cohors Evocata can be freely recruited.
2. To recruit a unit of Cohors Evocata, you must first disband one of the following:
 - Any Republican unit, or combination of units, that can be converted to Principes under the Republican progression system.
 - One unit of Pedites Extraordinarii with at least 2 experience.
 - One unit of Cohors Reformata with at least 3 experience.
 - One unit of Antesigniani with at least 4 experience.
 - Two units of Western or Eastern Auxilia with at least 3 experience.
3. Converting Triarii into Cohors Evocata would be a downgrade. You should do the nice thing, and find these guys a cozy garrison post. ;)
4. Units being disbanded for progression must have a unit strength of at least 90%.
5. Cohors Evocata units should not be retrained (as this restores them to full strength).

References