

**The Influence of Roman Military Camps on Town Planning**  
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**Abstract**

This paper is an analysis of the influence of Roman military planning has had on city planning. It begins with an examination of the military planning of legionary camps or *castra* and their direct descendant settlements: *canabae* and *coloniae*. This is followed by an analysis of town planning, including detailed examinations of Pompeii, Ostia, Paestum, Tingad, and their similarities, including the town plan and the location of its main buildings, in relation to the *castrum* plan that influences many Roman settlements around the Roman world.

**Introduction**

Ancient Rome, at its height, stretched from the British Isles to the Near East, dominating through conquest and assimilation. To facilitate the administration of such a vast empire, a well-designed and efficient infrastructure was required. Roads and sea-routes provided lines of communication, while aqueducts and sewer systems managed water and waste. Dotted along these networks were the towns and cities that brought Roman rule to the far corners of the empire. Most settlements did not just grow naturally, they, like any “civilized” community, needed to be planned and built. However, it is unclear if Rome dictated a specific plan for her cities. Often existing towns, those conquered by the Roman war machine, were given temples, markets, baths and a forum; in essence the Romans gave them culture, at least as they saw it. Thus they converted these savage villages to be acceptable by Roman “standards”. Conversely, they would

skip the process of Romanization altogether when whole populations were put to the sword and replaced with new Roman colonists.

It is the settlements the Romans founded and built that have the greatest potential to provide information on Roman town planning practices. Debate over what influenced Roman city plans has permeated the scholarly community for decades. One hypothesis, with which I am in agreement, is that it was the Roman *castra*, or military camps, that provided a source for the design of these towns. Whether the town plans were directly based on military camp layouts, or merely adapted some of their features, Roman legionary fortresses appears to have had significant influence on city planning and construction. Researching this topic is often made difficult by later building; in some cases centuries or even millennia of building have occurred on top of the original settlements. As a consequence, scholars have conducted little in-depth research on this subject. Therefore, for my analysis I will look at towns and cities abandoned before the advance of the modern age. Their layouts are therefore frozen in time within the archaeological record.

### ***Castra***

Before looking at how the *castra* influenced town planning, one must first understand the *castrum* itself, along with its direct urban descendants, the *canaba* and the *colonia*. The *castrum* was the heart of Roman military, the home of the legions. No Roman army would ever stop for the night without first erecting a *castrum*. This fort would be fully capable of supporting the entire army, including people and animals, along with all their food and supplies. So great was the need to establish a proper

fortification, that even if under direct assault from an enemy, men would be diverted to construct a *castrum* for the night. The Romans called these *castra* names like *tertiis castris*, *septuagesimis castris*, etc. for how many days the legionnaires constructed them to house the army for. Often in the early centuries of Rome's rise to power, legionaries were given leave to stay within a neighboring town during the winter, as summer was campaign season; winter in most places of the world meant rest.<sup>1</sup>

While a native town in Britain would be quite different from a native town in North Africa, a *castrum* from each location would be very similar because of the military psyche that strove to reinforce discipline and efficiency through uniformity in construction. Military engineers built the forts in the same fashion, according to a specific plan that was only changed if absolute need demanded it. They laid the *castrum* out and arranged it so that every individual knew their place automatically.<sup>2</sup> The writer Josephus refers to the temporary camps of the army as:

Thus an improvised city, as it were, springs up, with its market place, its artisan quarter, its judgment seats, where officers adjudicate any differences which may arise. The outer wall and all the installations within are completed more quickly than thought, so numerous and skilled are the workmen...<sup>3</sup>

Vegetius said that a marching camp, built for only one night's stay, was "an armed city".<sup>4</sup> Clearly, if the level of design and implementation was this high in lesser camps, then the full legionary fortresses must have been nothing short of amazing. At *Asturica Augusta* in Spain, the emperor Augustus even gave one of his legionary

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<sup>1</sup> William Ramsay, "Castrum," in *A Dictionary of Greek and Roman Antiquities*, ed. William Smith (London: John Murray, 1875), [http://penelope.uchicago.edu/Thayer/E/Roman/Texts/secondary/SMIGRA\\*/Castrum.html](http://penelope.uchicago.edu/Thayer/E/Roman/Texts/secondary/SMIGRA*/Castrum.html).

<sup>2</sup> Ibid.

<sup>3</sup> Josephus, *The Jewish War* 3.5, in Frank Miranda, "Castrum et Coloniae," 5.

<sup>4</sup> Vegetius, *Military Science* 2.25, in Frank Miranda, "Castrum et Coloniae," 5.

fortresses to the Astures tribe to be used as their capital.<sup>5</sup> Hyginus Gromaticus describes the standard military plan for a *castrum* as a rectangular grid, surrounded by four walls with four gates at each end of the *cardo*, the main north/south street, and the *decumanus*, the main east/west street, that intersected forming a cross at the fort's center.<sup>6</sup>

As Rome's borders expanded, especially during the Imperial era, the army built more permanent camps (like *Asturica Augusta*) to serve as the winter homes for the legions. This shift occurred because the legions were on the frontier, far from friendly towns that were capable of supporting multiple legions for several months. Because these camps sat in the middle of enemy territory, those who wished to gain from the Romans through trade and contact moved close to the *castra*. Being close to the camps also meant safety for many seeking to separate themselves from the rebellious groups fighting the soldiers. These natives, who lived outside the walls of the camps, formed what are known as *canabae*.<sup>7</sup>

### ***Canabae***

In Spain, the towns of Legio and Lucus started as *canabae*, civilian settlements of native people outside the walls of the forts. Forming the core of these *canabae* were the merchants doing business with the legion, who soon began to construct shops and cottages. Local women, especially prostitutes, also occupied these settlements; many of whom the soldiers had illegal families with.<sup>8</sup> The buildings in a legionary fortress would

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<sup>5</sup> Frank Miranda, "Castra et Coloniae: The Role of the Roman Army in the Romanization and Urbanization of Spain," *Quaestio: The UCLA Undergraduate History Journal* (2002), <http://www.sscnet.ucla.edu/history/undergrad/pat/journal2002/miranda.pdf>, 5.

<sup>6</sup> *Ibid.*, 4.

<sup>7</sup> William Ramsay, "Castra."

<sup>8</sup> Frank Miranda, "Castra et Coloniae," 5.

have been astounding to a native “barbarian”, especially the *praetorium*, which was the house and office of the legion’s commander. Filled with all the magnificent objects fitting for a wealthy Roman to have, it sent a clear message of the power of Rome to the foreign chiefs and messengers. As the *canabae* grew, they gained a great deal of wealth and power. Soldiers often stayed with their new families after being discharged and therefore helped to keep Roman power strong long after the army had left. These men often brought their friends and family to join their village, further expanding it. These villages also formed excellent sources for the legions to recruit from, adding more men to the cycle of conquest and colonization in other places. Eventually these forts and villages merged together, usually when the army moved on and the forts were left to the people.<sup>9</sup>

### ***Coloniae***

Very similar to the *canabae* are the *coloniae*, which are towns and settlements being built on land granted to retired soldiers. These colonies are important because, like the *canabae*, they would influence native populations, spreading the idea of rectangular planning that had been instilled by the military. The concept of retired soldiers influencing town planning is not only seen in the Roman period, but also under the Macedonian empire, and later in the Middle Ages as well.<sup>10</sup>

These *coloniae* began to be founded in the Republican era as a reward for the services that a Roman soldier provided during his time in the legions. Originally these colonies were founded as all ex-military residents and their families; however, they soon transitioned to a more integrated lifestyle with the indigenous people. Located within

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<sup>9</sup> Ibid., 5-6.

<sup>10</sup> Francis John Haverfield, *Ancient Town Planning* (Oxford: Oxford University Press, 1913), 41.

these colonies, soldiers helped the empire to maintain control by putting down any local rebellions, influencing local people, and providing a basis for Roman power to come back into the area if necessary, even supplying themselves as experienced soldiers should they be needed back in the army.<sup>11</sup> Tacitus records that: “In order to facilitate the displacement of troops westward to man [the nearby garrison], a strong settlement of ex-soldiers was established on conquered land...Its mission was to protect the country against revolt and familiarize the provincials with law-abiding government.”<sup>12</sup>

Centurions, the officers of the Roman companies, would often become the local magistrates of these colonies, and therefore wielded considerable power within these established communities, both in their politics and their economic development. The retired centurions and soldiers also helped the local elite class by Romanizing them, and bringing them into the fold of Rome’s power.<sup>13</sup>

An interesting note concerning the military influence on town planning comes from Hyginus Gromaticus who states that for the retired soldiers under Augustus: “For some of these he founded new cities after enemy settlements had been wiped out...”<sup>14</sup> This little piece of evidence proves extremely useful in noting that there may have been more behind frontier planning than just the soldiers. Few sources mention anything about the Senate, the emperor, or Rome herself dictating a plan for settlements. Hyginus’s words may point to direct influence from Rome in creating and possibly paying for new towns for retirees. *Caesar Augusta*, a *colonia* in Spain is laid out exactly like a *castrum* with a rectangular grid, surrounded by four walls, with four gates at each end of the *cardo*

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<sup>11</sup> Frank Miranda, “Castrum et Coloniae,” 2.

<sup>12</sup> Tacitus, *Annals* 12.32, in Frank Miranda, “Castrum et Coloniae,” 2.

<sup>13</sup> Frank Miranda, “Castrum et Coloniae,” 3.

<sup>14</sup> Hyginus in Naphtali Lewis and Meyer Reinhold, *Roman Civilization, Vol II* (New York: Columbia University Press, 1966) 212.

and *decumanus*. Another *colonia* that was built during the time of Augustus is *Emerita Augusta*, also in Spain, which was interestingly built in a strategic area, but not in a very defensible position. In this way *Emerita Augusta* seems to be built with more civil than military principles in mind. This reflects the progression of cities being built in less defensible positions and more in places they can be laid out nicely as time passes from the Republic into the Empire (see later sections on Pompeii and Timgad).<sup>15</sup>

## **Town Planning**

Now that I have established a picture of the *castrum* and its layout, a common definition of what town planning entails must be established. In his book entitled *Ancient Town Planning*, published in 1913, Francis John Haverfield, a British historian and archaeologist defined town planning as:

The art of laying out towns with due care for the health and comfort of inhabitants for industrial and commercial efficiency and for reasonable beauty of buildings is an art of intermittent activity. It belongs to special ages and circumstances. For its full unfolding two conditions are needed. The age must be one in which whether through growth or through movements of population towns are being freely founded or freely enlarged and almost as a matter of course attention is drawn to methods of arranging and laying out such towns. And secondly the builders of these towns must have wit enough to care for the well being of common men and the due arrangement of ordinary dwellings.<sup>16</sup>

Few authors have articulated this concept with more clarity and precision since Haverfield wrote these words almost one hundred years ago. His definition also lends itself nicely to this debate due to the context in which it was written. Haverfield felt that ancient town planning, with its use of straight lines at right angles, was what separated

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<sup>15</sup> Frank Miranda, "Castra et Coloniae," 4.

<sup>16</sup> Francis John Haverfield, *Ancient Town Planning*, 11.

the civilized men: the Greeks, the Romans and other Mediterranean peoples from the barbarians who lurked on the periphery of the civilized world.<sup>17</sup>

Haverfield's work immediately became, and has remained still, at the core of ancient architectural and town planning study. The timelessness of his contribution to the field can be seen as each new archaeological site only supports his claims long after they were put onto paper.<sup>18</sup> Haverfield claimed that the Roman town plan, which emphasized the use of straight streets branching off each other at right angles, was based on Greek plans. From this basic tenet the Romans perfected the "checkerboard" pattern during the time of Augustus. This checkerboard pattern was formed as the streets created a grid pattern as they ran parallel and perpendicular to each other.<sup>19</sup>

### ***The Decumanus and the Cardo***

What separates the Roman from the Greek method of town planning comes down to one key difference: the center. While both have straight lines and right angles, two streets bisect Roman cities, each running perpendicular to the other in the shape of a cross. This cross forms the basis from which all other streets come from, whether they are at right angles or not. Greek cities, like Priene, do not seem to have this center cross as the basis of their plan.<sup>20</sup> The longer street of the main cross is called the *decumanus*, which usually ran west to east, while the shorter street, called the *cardo*, usually ran from north to south. The Roman military camps, the *castra*, as previously stated, share this

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<sup>17</sup> Ibid., 11.

<sup>18</sup> Ray Laurence, "Architects, planners and the classical city," *History Today*, Vol. 43 Issue 11 (Nov 1993), <http://web.ebscohost.com/ehost/detail?vid=1&hid=4&sid=5b88eca8-29c7-4ba5-3a36c09f359b0%40sessionmgr8&bdata=JnNpdGU9ZWwhvc3QtbGl2ZQ%3d%3d#db=aph&AN=9312137782>. 8.

<sup>19</sup> Francis John Haverfield, *Ancient Town Planning*, 17.

<sup>20</sup> Ibid., 73.

same cross-shaped pattern formed by the *decumanus* and the *cardo*.<sup>21</sup> Diocletian's villa on the Dalmatian coast is a perfect example of this plan, as it is laid out very similarly to a *castrum*, in more ways than just the layout of its *cardo* and *decumanus*, but also serves the residential function of a city-like environment. It stands as the zenith of military planning usage in an urban context.<sup>22</sup>

## **Pompeii**

Roman towns however, are not always made up of perfect right angles and straight lines. Haverfield himself recognizes this in his discussion of perhaps the most famous Roman city after Rome itself: Pompeii. While Pompeii's plan includes straight roads, it lacks the nice right angles at street level. Many sections of Pompeii are laid out in different orientations to each other. As a consequence of this, Pompeii's overall footprint is roughly trapezoidal in shape. This shape, Haverfield attributes to two possible causes: one, the previously existing Italic-tribal elements of the town, and two, possible influence from the military ideal of trying to occupy a specific piece of land despite its asymmetry. Therefore, right angles are disregarded and straight oblong shapes are substituted, an influence from military camps, which were built to occupy a specific area of strategic value and therefore could not always be built in a perfect rectangle.<sup>23</sup> Not only is this a logical hypothesis to explain the trapezoidal plan, but research has shown that Pompeii was built to occupy a peninsula of volcanic effluvium. It is therefore this geologic feature that defines the footprint of the city; the wall following the natural tier of

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<sup>21</sup> Nancy H. Ramage and Andrew Ramage, *Roman Art Romulus to Constantine* (Upper Saddle River: Pearson Prentice Hall, 2009), 83.

<sup>22</sup> Richard Brilliant, *Roman Art from the Republic to Constantine* (London: Phaidon Press Ltd., 1974), 49.

<sup>23</sup> Francis John Haverfield, *Ancient Town Planning*, 67-68.

the hill for the majority of its circuit.<sup>24</sup> While this theory can account for the overall shape of the city it does not account for why some sections of Pompeii have right angles streets and some, which have been laid out at right angles, do not. The reason for this brings us back to Haverfield's first hypothesis for the city's unusual layout: the archaic foundations. The southwest corner of the city, where the forum now stands, is a complex pattern of streets, different from the rest of the city's rectilinear plan. This area represents the meeting of the archaic foundations of the city, and later renovations by Roman architects.<sup>25</sup>

Pompeii serves two purposes for my inquiry into Roman town planning. One, it seems clear that cities are often created in strategic locations; an idea that should make perfect sense in any culture, not just Roman (less so during the Imperial era as previously stated). When cities are placed in these strategic locations they cannot always keep the perfect rectangular layout that would normally be preferred (see later section on Timgad). Pompeii is an excellent example of this as the natural topography of the land, along with preexisting architecture, has warped what would ideally be a rectangular plan. But what does this have to do with influences from military planning? It is this question that brings me to the second purpose that Pompeii serves: to look at a complex example of the *decumanus* and the *cardo* in a town plan.

At Pompeii, the two crosses formed by the *Via di Nola* and the *Via dell'Abbondanza* (the *decumani*) intersecting with the main north/south street, the *Strada Stabiana* (*cardo*) does appear to be an attempt by Roman architects to build in the *castrum* plan. Some, like Dr. Lawrence Richardson Jr., would argue that attempting to

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<sup>24</sup> Lawrence Richardson, Jr., *Pompeii An Architectural History* (Baltimore: The John Hopkins University Press, 1988), 37.

<sup>25</sup> *Ibid.*, 41-42.

apply a *castrum* plan to Pompeii creates too many problems because of the lack of a clear central point from which the town expanded. His argument states that this is only a “superficial resemblance” to the *castrum* plan, but not a true resemblance because the town came into being independent of a preexisting fort. However, just because architects did not build Pompeii around an existing military settlement does not mean the principles of planning, namely the *cardo* and *decumanus* layout that formed the basis for *castra*, was not a factor in its construction. As Haverfield suggested, it is the warping influence of the need to occupy specific land that has created a best-fit fusion of the rectangular, *castrum* plan with previous construction, overlaying physical geography.<sup>26</sup> This would likely be a result of the military influence of the refounding of Pompeii by Rome as a colony for Sulla’s soldiers in c. 81 BCE.<sup>27</sup> While ideally the *cardo* and the *decumanus* should split the city (or fort) into four equal quarters, with the forum at the middle, this could not always be accomplished. I believe that Pompeii is an example of this asymmetrical quality, as often the forum lay next to the central point formed by the main streets (although at Pompeii, how planned this was is unknown).<sup>28</sup>

## **Ostia**

One of the best, and therefore one of the most studied examples of a town adhering to the *castrum* plan is the Roman town of Ostia, at the mouth of the Tiber River. Ostia was built by Sulla in the 1<sup>st</sup> century BCE, around an existing colony from the 4<sup>th</sup> century BCE. This fortified military colony was built as a *castrum*, and formed the basis of the later town’s plan. The *castrum* was approximately 200 by 130 meters, divided in

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<sup>26</sup> Ibid., 36.

<sup>27</sup> Alison E. Cooley and M. G. L. Cooley, *Pompeii: a sourcebook* (London: Routledge Press., 2004), 17.

<sup>28</sup> Richard Brilliant, *Roman Art*, 49.

four equal quarters by the intersecting *decumanus* and *cardo*. The roads that led up to each of the four gates provided the basis for Ostia's main streets, and therefore the basis for the entire city's grid.<sup>29</sup> One theory for why the *castrum*'s existing plan influenced the town's plan so much is that it was army surveyors that built the city.<sup>30</sup> As the Imperial changes that were wrought on the Republican plan took root, they reflected the growing shift from the military plan during centuries of peace (for Ostia anyway). At the time, trade developments created random assortments of streets around the edges of the town because no regular planning was being implemented. A defensive wall that was created later however, shows that when war did come back to threaten Ostia, city officials realized the need to reimplement a militarized design.<sup>31</sup>

## Paestum

The Roman city of Paestum represents another Roman takeover of a previously existing settlement like Pompeii, only much earlier in 273 BCE. Originally a Greek colony named Poseidonia, most of its buildings, save its now famous temples, were destroyed, and a new Roman plan replaced the Greek grid.<sup>32</sup> The highlight of this new town plan was the intersecting *cardo* and *decumanus* of the *castrum* plan. Like other cities, a large forum was laid out adjacent to the central crossing of the roads. The rest of the city conformed to the main avenues in the typical grid pattern, similar to the original

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<sup>29</sup> J. B. Ward-Perkins, *Roman Imperial Architecture* (Middlesex: Hardmondsworth, 1981), 151.

<sup>30</sup> R. Macmullen, "Romanization in the Time of Augustus," in *Roman Imperialism Readings and Sources*, ed. Craige B. Champion (Oxford: Blackwell Publishing, 2004), 217.

<sup>31</sup> Axel Boethius and J. B. Ward-Perkins, *Etruscan and Roman Architecture* (Baltimore: Penguin Books, 1970), 183.

<sup>32</sup> John Griffiths Pedley, *Paestum, Greeks and Romans in Southern Italy* (New York: Thames and Hudson Press, 1990), 113.

Greek grid, although with a different alignment as seen in the Greek temples' angle compared to the Roman plan.<sup>33</sup>

## Timgad

Timgad in Numidia (modern-day Algeria) represents another Roman city that was built, like Pompeii, without a preexisting *castrum* in place. However, unlike Pompeii, it is not nearly as constricted by the geography and therefore represents a more ideal Roman layout for a settlement. Founded in 100 CE by Trajan as a colony for his veterans, Timgad represents the *cardo/decumanus* plan, already well established in towns like Ostia and Paestum. Although, like Ostia, further additions and extensions onto the original city layout branch off at different angles from the ideally straight extensions of the *cardo* and *decumanus*. This is the result of using the existing roads that did not run straight from the gates, as this would have been easier than creating new roads. Most noteworthy in Timgad however, is that the *cardo* ends at the center of the city when it reaches the *decumanus*. The main arteries of the city therefore resemble a “T” shape, rather than the typical cross. This “T” shape is also seen in several legionary fortresses from around the Roman Empire.<sup>34</sup>

The legionary fortress at *Viroconium Cornoviorum*, modern-day Wroxeter in England, features the “T” plan, with the *cardo* ending in front of the *Principia* (headquarters),<sup>35</sup> exactly where the forum stands in Timgad. This is an interesting

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<sup>33</sup> Ibid., 123-124.

<sup>34</sup> J. B. Ward-Perkins, *Roman Imperial Architecture*, 391.

<sup>35</sup> Graham Webster, *The Legionary Fortress at Wroxeter* (London: English Heritage, 2002), 6.

similarity, because the *castrum* at Wroxeter was built c. 60 CE and active until c. 90 CE,<sup>36</sup> just prior to the founding of Timgad.

## Comparative Layout

Another legionary fortress that shares this “T” shape axis ending at the *principia* is *Inchtuthil* in Scotland. *Inchtuthil*, a wood and turf fortress built c. 80’s CE, lasted for only three years, however it has the most complete ground-plan of any fortress and therefore it is useful to compare the legionary fortress with cities.<sup>37</sup> As previously stated the “T” shaped main roads of the *cardo* and the *decumanus* also end in front of the *principia*, roughly the equivalent of a city’s forum, its economic and political heart. It is important to remember that fortresses did not always have the “T” shape, engineers built many fortresses like *Castra Regina* in Germany and *Noviomagus* in the Netherlands, with the *cardo* and *decumanus* crossing the entire plan, interrupted only by the *principia*. The “T” shaped plan represents a common variation to this plan, in both military camps and towns.<sup>38</sup> Other buildings common to fortresses and cities such as baths, hospitals, and shops line the *cardo* and *decumanus* so that they are therefore easily accessible to both the inhabitants of that settlement and outsiders, much the same way the forum/*principia* would have been incredibly easy to find by simply following one of the two main roads until you reach the center.

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<sup>36</sup> *Ibid.*, xiii.

<sup>37</sup> Elizabeth Shirley, *Building a Roman Legionary Fortress* (Stroud, Gloucestershire: Tempus Publishing Ltd., 2001), 13.

<sup>38</sup> Duncan B. Campbell, *Roman Legionary Fortresses 27 BC-AD 378* (Oxford: Osprey Publishing, 2006), 21, 33.

## Conclusion

While there are many examples of town plans that do not adhere to the *castrum* alignment, and cities like Ostia and Timgad that have later extensions and expansions that break from the original lines of the *cardo* and *decumanus*, the influence of military planning on civil town planning is unmistakable. Preference for *castra* based plans during the reign of expansionist/military-oriented emperors like Augustus and Trajan led me to conclude that Rome did have an opinion on how cities and towns across the empire should be arranged, as evident in Augustan era Ostia and Timgad. On the other hand, cities like Paestum, Pompeii, and Republican Ostia show that this influence existed already during the Republican era, predominantly under Sulla's leadership (again militaristic leadership). The fourth century founding of the *castrum* at Ostia reveals the age of the *castrum* plan using the *cardo* and *decumanus* to quarter the settlement. Cities do not start adopting this layout until the third century at places like Paestum, and later at Ostia, Pompeii, Timgad and others. This shows that the use of the *castrum* plan in military planning predates its use in city planning, proving, quite literally in stone, that military planning was influencing city planning instead of vice versa.

Ultimately however, the physical associations between the military and city plans are trivial next to the power of change wielded by the soldiers themselves. The city planning is just a shadow of how much the Romans influenced those they conquered and even those they didn't. After all it was Virgil who said: "Your task, Roman, and do not forget it, will be to govern the peoples of the world in your empire. These will be your

arts- and to impose a settled pattern upon peace, to pardon the defeated and war down the proud.”<sup>39</sup>

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<sup>39</sup> Virgil *Aeneid*, 6.851-3, in Frank Miranda, “Castra et Coloniae,” 6-7.

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