

# THE SIZE AND ORGANIZATION OF THE ROMAN ARMY AND THE CASE OF DACIA UNDER TRAJAN

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## The Legion

During the Principate, the Roman army becomes a peacetime army, still in war conditions, because, even if the size varies, the structures do not change radically. In contrast, the Republican army is a wartime army, whereas it disappears after it has served its purposes, at least until 167 BC. After this date legions are recruited permanently from Hispania, Macedonia or Cisalpine Gaul, having a short term of service. Their total number at this time is six or seven. The radical change occurs in the period 80-50 BC, when the army, while permanent, operates with supplemental draughting in case of emergency. There are 30 legions at this moment. Even after Actium, the Roman army was not a peacetime army, because the draughts and discharges depended on the needs and there is no permanent status of the units or service. After 30 BC, the legion becomes a permanent unit, and the total of the legions is settled to 27, then 28, and the terms of service changed. Additional draughts are made only in emergency situations, and the newly created troops get permanent.<sup>1</sup>

The literary sources for the organization and size of the Republican legion have different information. Livy (*Ab Urbe Condita* XXII.36.1) and Polybius (*Historiae* III.107.11) agree when saying that the Republican legion had 4000 infantrymen and 200 horsemen, being able to support an additional 1000 infantrymen and 100 horsemen, in case of emergency. Other authors, like Caesar, Plutarch or Appian offer different numbers, stretching between 3,000 and 6,000 infantry and 200 and 400 cavalry. Plutarch (*Cato* XLV.3) says that the legion that Pompey sent to Caesar in Gaul, in 55 BC, was composed of 6,000 men. Livy (*Ab Urbe Condita* XL.28.8-9) and Sallustius (*De Bello Iugurthino* 82.4, 86.4) states that the legion did not have an exact size, because this was decided by the Senate, at the beginning of each year, according to the needs of the state.<sup>2</sup>

The legion described by Polybius has 4,200 men, arranged on 3 battle lines - *ordines*. The first line - *hastati*: the youngest men, average armed, forming the meeting line. The second line - *principes*: mature men, heavily armed and prepared for battle, forming the main resistance. The third line - *triarii*: the elder and most experienced legionaries, forming the strategic resource. Additionally existed a line of *velites*, young men lightly armed, with javelins, arranged between the 3 lines. Each of the 3 lines was divided into 10 *manipuli*, each *manipulus* into 2 *centuriae*, of 60 men each. Three *manipuli* formed a cohort and the 10 cohorts plus the 300 horsemen formed the legion. The legionary cavalry was divided into 10 *turmae*, 30 horsemen each. and the *turma* was divided into 3 *decuriae*.<sup>3</sup> This 2<sup>nd</sup> Century legion, described by Polybius has three heavy infantry corps, one light infantry and one cavalry. The three heavy infantry corps are *hastati*, *principes* and *triarii*, of which the first two are 1,200 strong and the 3<sup>rd</sup> only 600. The light infantry, *velites*, would be 1,200 strong.<sup>4</sup>

<sup>1</sup> Dobson 1986, 10-13.

<sup>2</sup> Even so, enlisting fashions existed, indicating a size fluctuating between 4,000 and 4,200 in the 3rd Century BC and 5,000 and 5,200 in the 2nd Century BC, see Roth 1994, 347.

<sup>3</sup> Brand 1968, 47-49.

<sup>4</sup> Luttwak 1979, 40.

In the evolution of the Roman army the first important turnover will be Caius Marius, the founder of a professional army. The privileged cavalry and the difference between the *hastati*, *principes*, *triarii* and *velites* dissappeared, the basic unit is not a *manipulus* anymore, but the 10 legionary cohorts, 600 men each, resulting in a 6,000 men legion.<sup>5</sup> On the other hand, Luttwak thinks that the 4 infantry corps concluded in 10 cohorts of 480 men each, and the cavalry was reduced until extinction, because there is no evidence of legionary cavalry in the army of Caesar.<sup>6</sup> In any case, the size stretched depending on diplomatic status, needs or fashions. For instance, the VI<sup>th</sup> legion had only 1,000 men when leaving Alexandria (*De Bello Alexandrino* 69), and the X<sup>th</sup> only 3,500 men at Masada. Once the fortresses become permanent, this kind of variation will not be recorded anymore.<sup>7</sup>

Sex. Pompeius Festus, in the 2<sup>nd</sup> Century AD states that the Marian legion had 6,200 men, Servius, in the 4<sup>th</sup> Century AD, 6,000 infantry and 300 cavalry, Joannes Lydus (*De Magistratibus Populi Romani* I.46) and Isidore of Sevilla (*Etymologica* XIX.33.2), in the VI<sup>th</sup> and VII<sup>th</sup> Century AD, 6,000 infantry and 600 cavalry.<sup>8</sup>

Augustus reformed heavily the Roman army, he drove it out of Italy and sent it to the frontiers. This army pledged to him and was paid by him. He established the military units, especially the auxilliary units, their size and organization, because his military monarchy relied on the good functioning of the army.<sup>9</sup>

There were 25 active legions in AD 14, adding up to a total of 140,000 men, and a close related number of auxiliaries. In the Augustan period, the army was garrisoned in marching camps, usually two legions and auxiliaries. Eventually, by the end of the 1<sup>st</sup> Century AD, each troop will get its permanent fort.<sup>10</sup> Consequently, the frontier concept appears at the middle or at the end of the 1<sup>st</sup> Century AD. Cassius Dio (*Historia Romana* 55.23) states that from the 25 legions in service in AD 14, 18 survived until his time.<sup>11</sup>

Fortresses garrisoning two legions at the same time were common in the 1<sup>st</sup> Century AD, adding up to 10,000 legionaries, especially on the Rhine defensive line. *Mogontiacum*, one of these double-size fortresses, was the uprising headquarters of Vitellius and Saturninus, and so, after AD 90, Domitian prohibited two legions to hibernate in the same fortress (Suetonius, *Dom.* 7.3: *Geminari castra prohibuit*). There is also clear evidence for garrisoning of auxiliary units together with legions, in the Augustan period.<sup>12</sup>

The structure of the Imperial legion, after Maurus Servius Honoratus is the following: 10 *contubernia* form a *centuria*, 6 *centuriae* a cohort and 10 cohorts a legion.<sup>13</sup> Even so, one of the most frequently used literary source for the identification of the size and organization of the Imperial legion is Vegetius' *Epitoma Rei Militaris*. Flavius Vegetius Renatus wrote the compendium at the end of the 4<sup>th</sup> and the beginning of the 5<sup>th</sup> Century AD, in a time of great turmoil for the western part of the empire. In this situation, the author directed his attention to the army of the Principate, the most elaborate military system in his opinion, and compiled information from different sources for the description of his *antiqua legio*, to give an example to follow to his emperor, probably Theodosius I.<sup>14</sup> Probably Vegetius wanted a reform of the army, so he described an ideal pattern to follow, not likely a real situation.<sup>15</sup> His figures, of 6,100 men for a legion, are reproduced by Isidore of Sevilla and Joannes Lydus.<sup>16</sup> At the end of the 4<sup>th</sup> Century AD, *Historia Augusta* (*Severus Alexander* 50.5), reveals the fact that the emperor added six legions to form a phalanx of 30,000 men, which would indicate a legion of 5,000. Pseudo-Hyginus, in his

<sup>5</sup> Brand 1968, 113.

<sup>6</sup> Cf. Luttwak 1979, 40.

<sup>7</sup> Goldsworthy 1996, 22.

<sup>8</sup> However, all these figures are related to the Republican legion and cannot be used for the identification of the Imperial legion size, see Roth 1994, 348.

<sup>9</sup> de Blois 1987, 52-54.

<sup>10</sup> The earliest known auxiliary permanent fort is Valkenburg, in Lower Germany, probably built around AD 40.

<sup>11</sup> On this matter see also Cheesman 1914, 21.

<sup>12</sup> See for instance Schnurbein 2000, 36.

<sup>13</sup> *Comments on Vergilius' Aeneis*, 11.463: *legio ... habebat decem cohortes, sexaginta centurias*.

<sup>14</sup> The author is referring to the legion in chapters six and eight of the 2nd book. For the author see recently the contribution of Baatz 2000, 149.

<sup>15</sup> Cf. Roth 1994, 350.

<sup>16</sup> See Richardot 1995, 411. Isidore states that the legion has 60 *centuriae* and 30 *manipuli*, which is correct, but 12 cohorts and 200 *turmae*, which is a confusion, cf. Roth 1994, 350.

work, *De munitionibus castrorum*, wrote probably in the reign of Trajan, offers certified information, but he does not mention the total size of the legion, only of the auxiliary units. He states that a *centuria* had 80 men, which would indicate a 4,800 men legion, but also that a cohort had 600 men, which would sustain a 6,000 men legion (Ps.-Hyg. *De mun. castr.* 1.4).

Vegetius gives quite great deal of information about the legion, but only one explicit description of the *antiqua legio* (*Epitoma Rei Militaris* III.5): 9 of 10 cohorts contained 555 infantrymen and 66 horsemen, grouped in 5 *centuriae* each, and the 10<sup>th</sup> had 1,105 infantrymen and 132 horsemen, grouped in 10 *centuriae*, for a total of 6,100 infantry and 730 cavalry, in 55 *centuriae*. However, a legion formed by 55 *centuriae* is not attested elsewhere.<sup>17</sup> He divides the legion in 10 cohorts<sup>18</sup>, the 1st *milliaria* and the other 9 *quingenariae*. The battle order is disposed on two lines – *acies duplex* (*Epitoma Rei Militaris* II.6) and the cohorts I, III, V, VI, VIII and X hold the best soldiers, because they stand on the flanks and in the middle, the strategic positions.<sup>19</sup> The 555 men quingenary cohort of Vegetius is resemblant to the 550 men quingenary cohort mentioned by Cassius Dio (*Historia Romana* LXI.12.5) besieging Hatra, under Septimius Severus' reign.<sup>20</sup>

The structure of Vegetius' is as following: 1<sup>st</sup> cohort, *milliaria*, has 1,105 *pedites* = 10 *centuriones* + 100 *decani*<sup>21</sup> + 1,000 *milites* and 132 *equites loricatos*. Cohorts 2 to 10 are of 555 *pedites* = 5 *centuriones* + 50 *decani* + 500 *milites* and 66 *equites* each. The total resulting is 6,100 *pedites*, 55 *centuriones* and 730 *equites*. Hyginus' legion is structured differently, the 1st cohort containing 960 men, and the other 9 480 men each. All the *centuriae* have 80 men, divided into 10 *contubernia*, and the legionary cavalry has 120 horsemen, until Gallienus increases its size to 726.<sup>22</sup>

By the 1<sup>st</sup> Century AD was established the double 1st cohort in the legion. The exact moment of its institution is not known, but we find out the fact from Hyginus (*De mun. castr.* 3.1), Vegetius and a couple of discharge lists (Vegetius II.6, 8). Richardot thinks that it was probably created by Augustus.<sup>23</sup> It was questioned that the *immunes* increased the size of the 1st cohort, or that the veterans did, because Tacitus (*Annales* I.36, I.39) gives us proof of retaining them *sub vexillo* after the completion of their service. In spite of that, the veterans appear in the legion's records only in the 1st C, and the same Tacitus (*Annales* III.21) state that their number would not exceed 500. The active legionary veterans were launched by Augustus, who fixed the military service at 20 years regular and five years *sub vexillo*. There is evidence for a *praefectus veteranorum* (AE 1941, 165) and a *centurio veteranorum* (ILS III 2817), and their appointment to the 1st cohort is possible, making it an elite unit. The legions also had engineers, topographers, medical doctors, and all the soldiers held minimal training in construction works and siege weaponry usage. The 1st cohort was the elite part of the army, it kept under surveillance the legion eagle, and its soldiers were recruited among the tallest legionaries (Vegetius, *Epitoma Rei Militaris* I.5). Vegetius applies the command of the 1st cohort as it follows: *primus pilus* – 4 *centuriae* (400), *primus hastatus* – 2 *centuriae* (200), *princeps* and *secundus hastatus* – 1 ½ *centuriae* (150) and *triarius prior* – 1 *centuria* (100), but this pattern is not quite reflected by the archaeological facts.<sup>24</sup> Vegetius gives two options of counting the men in a legion. At first, he says that the 1st cohort has 1,105 *pedites* and 132 *equites* and is called *milliaria*, the other 9 555 *pedites* and 66 *equites* each, called, *quingenariae*, but then, when he describes the line of command, the numbers of the 1st cohort drop to 1,000, formed from 400 men in the 1st *centuria*, 200 in the 2<sup>nd</sup>, 150 in the 3<sup>rd</sup> and 4<sup>th</sup> and 100 in the 5<sup>th</sup>.<sup>25</sup>

The epigraphic sources confirm the doubling in size of the 1st cohort. The discharge list of *V Macedonica*, in 134 (CIL III 6178) reveals that from the 1st cohort were discharged 40 men, from the 2<sup>nd</sup> 17 men, from the 3<sup>rd</sup> 14 men, from the 4<sup>th</sup> 10 men, and from the 9<sup>th</sup> 12 men. In the same manner, on a *laterculus* set up by the veterans of *VII Claudia* (CIL III 14507), discharged in AD 195, from the 1<sup>st</sup> cohort left 47 men, from the 2<sup>nd</sup> 22 men and from the 3<sup>rd</sup> 18 men, and the inscription CIL VIII 18072 records 5 *optiones* of

<sup>17</sup> Cf. Roth 1994, 349.

<sup>18</sup> *Epitoma Rei Militaris* II.6: *sciendum autem est in una legione decem cohortes esse debere*.

<sup>19</sup> Baatz 2000, 149.

<sup>20</sup> See Richardot 1995, 412.

<sup>21</sup> *Epitoma Rei Militaris* II.5, they seem to be the commanders of 10 men formations, a *contubernium*.

<sup>22</sup> Richardot 1995, 412.

<sup>23</sup> See Richardot 1995, 412.

<sup>24</sup> See an example of the barrack distribution in Pitts, St. Joseph 1986, 148.

<sup>25</sup> For some commentaries see Breeze 1969, 50.

the 1<sup>st</sup> cohort of *III Augusta*. The conclusion that seems obvious is that from AD 86 until at least the mid-3<sup>rd</sup> C, the 1<sup>st</sup> cohort of the legion was double in size. One possible explanation could be that it included the administrative and technical staff, about 600 men, but this cannot be proved.<sup>26</sup> In contrast, the above mentioned *laterculi* show that this kind of staff, along with the governor or the legate's staff, is spread among all the cohorts, and not only in the 1<sup>st</sup>, not even in a preponderant manner.<sup>27</sup>

There are many explanations of the increasing size of the 1<sup>st</sup> cohort. The entire corps of legionary cavalry or the *lixae*, or even the legionary artillery or the military technicians could be contained by the 1<sup>st</sup> cohort. The *lixae* are the baggage train of the legion, its utility unit, formed by: *calones* – soldiers' servants, craftsmen, technicians, topographers, medical doctors etc. Some, like Festus and Livy say that *lixae* were following the army for their own profit, others like Ammianus Marcellinus that for the food preparation or other necessities. In general, it is considered the multitude of people that follows the army, offering various services, like food, drinks, women.<sup>28</sup>

This difference of numbers is detected in Hyginus' writings also (*De mun. castr.* 1.4, 5.2-3), when saying that a *centuria* has 80 *milites*, and a cohort 600 *homines*, probably including amongst the *homines* the army servants also. There were two categories of army servants, the soldiers' private servants and those of the legion itself. Caesar (*De Bello Civili* III.6.1) suggests that, even when the soldiers' personal servants were left behind, in case of emergency, there were still a lot of servants in the fortress. The legionary servants had a minimum training for battle, they were equiped with a spear and they had the mission to protect the fortress when the legion was detached to battle. Most of them are Imperial servants or freedmen, assigned to the legionary legate or tribunes, thus officially to the legion.<sup>29</sup> Therefore, these *calones*, who do not add up to the count of a *centuria*, appear practically in the total of the cohort.<sup>30</sup> The legionary cohort could have been an administrative unit rather than a tactical one, having no officers, status, tactics or standard of its own, being only a type of organization in barracks.<sup>31</sup>

Besides, two inscriptions, discovered at Sitifis, Mauretania, set up by two legionaries, one of *II Italica* (AE 1072, 709) and the other of *III Italica* (AE 1972, 710) record the cohort still rather than the *centuria* as administrative unit of the legion. Furthermore, the second inscription register a *signifer* of two cohorts from *III Italica*, denying the general opinion that the legionary cohort has no officers, sustained by Th. Mommsen and A. Von Domaszewski. Among the hundreds of inscription mentioning legionaries, only four describe them as belonging to cohorts, not *centuriae*. It seems that the legionaries were enlisted in cohorts when given remote missions. This is proved by the list of legionaries from *III Augusta* detached in the outpost at Dimmidi, in South-West Numidia, written on an altar of AD 225, and on one from *municipium Montanensium* of Moesia (CIL III 7449). Vegetius states that 10 bags of money existed in the legion, one for each cohort, that were kept in safety by the *signiferi* (*Epitoma Rei Militaris* II.20). These could very well be the *signiferi* of the first *centuria* in each cohort, but this is not proved. The legitimate conclusion in this matter is that the regular cohorts have no officers, but the ones in the vexillations do.<sup>32</sup>

Most of the 1<sup>st</sup> cohort barracks have 5 centurion accommodations, probably because the *primus pilus* resided along with the *tribuni angusticlavii*. The epigraphic evidence is not concluding, offering sometimes 5 other 7 centurions in the 1<sup>st</sup> cohort. There is proof for the legion made by 60 *centuriae*: Tacitus (*Annales* I.23.3) mentions that the rebels from Pannonia punished the *primus pilus* with 60 whip strikes, one for each *centuria*, and the 1<sup>st</sup> Century *valetudinarium* at Vetera had 60 quarters, each for every *centuria*. From this point of view, Roth concludes that the 1<sup>st</sup> cohort had 6 *centuriae*, double in size (160), for a total of 960 legionaries, along with 240 military slaves (each one for 4 legionaries), therefore a total of 1,200 men. By this logic the extensive size of a legion is 5,280 legionaries and 1,320 *calones*, adding up to a grand total of 6,600 men.<sup>33</sup>

<sup>26</sup> See Breeze 1969, 50.

<sup>27</sup> Cf. Breeze 1969, 51.

<sup>28</sup> For other opinion see Feig Vishnia 2002, 265.

<sup>29</sup> Roth 1994, 354-355.

<sup>30</sup> See Roth 1994, 356.

<sup>31</sup> Cf. Isaac 1995, 26, 29. Additionally, Goldsworthy proposes that a cohort has no officers of its own, the command being held by the senior centurions, Goldsworthy 1996, 15.

<sup>32</sup> See also Speidel 1982, 851, 854-858.

<sup>33</sup> Cf. Roth 1994, 360-361.

An essential contribution is acquired from the archaeological evidence. In theory, Hyginus indicates that the 1<sup>st</sup> cohort barracks are positioned in *latera praetorii*, right of the *principia*, but the facts are not always that simple. In the legionary fortress at Inchtuthil, the 1<sup>st</sup> cohort barracks present 5 centurion accommodations and are double in size than those of the other 9 cohorts.<sup>34</sup> These buildings are located between the so-called *tabernae* and the barracks themselves, and are twice as big as the other centurion headquarters, the accommodation of the *primus pilus* having even *hypocaustum*.<sup>35</sup> There are 10 rows of barracks, sustaining the 6 to 10 proportion between the 1st cohort and the other 9, as Hyginus declares.<sup>36</sup> These 10 rows can indicate the doubling of 5 or an exception. In this case, even if most of the fortresses have six barracks for the 1<sup>st</sup> cohort, Inchtuthil can be considered a fortress, thus having a 1<sup>st</sup> cohort enlarged by veterans.<sup>37</sup> For the *quingenariae* cohorts, Inchtuthil, built in the Flavian period, has 9 barracks disposed on 6 *centuriae* each, as in theory.

Other examples are more or less enlightening. The barracks of the 1st cohort at Nijmegen are located in the *praetentura dextra* having 6 *centuriae* and only 5 centurion headquarters. Here, the archaeological facts seem to indicate the reduction in half-size of the 1<sup>st</sup> cohort after the Flavian period.<sup>38</sup> Caerleon has 6 *centuriae* with 6 centurion headquarters for the barracks of the *quingenariae* cohorts, and only 3 centurion headquarters of the 1st cohort have been excavated, from the virtual 5 that would fit into the spot.<sup>39</sup> Neuss displays the barracks of two *quingenariae* cohorts, divided into 6 *centuriae* each.<sup>40</sup> At Lambaesis, the surface virtually occupied by the barracks of the 1st cohort is only 40% larger than those of the other 9 cohorts.<sup>41</sup> On the other hand, the 1<sup>st</sup> cohort barracks at Gloucester, disposed *per scamna*, show 6 centurion headquarters and 6 *contubernia* rows.<sup>42</sup> However, in the Flavian period there is enough place for a double-sized 1st cohort at Caerleon, York, Chester or Bonn, but the stone buildings show 6 centurion headquarters.<sup>43</sup>

The archaeological evidence indicate the disposition of the *quingenariae* barracks in 6 *centuriae*, proving also the organization of the cohorts 2 to 10 in 6 *centuriae*, as in Hyginus, not in 5 *centuriae* and a *turnna*, as in Vegetius. In all the cases presented above, the 1st cohort barracks are larger than the other 9, but not double-sized, just 60-70% larger, indicating a proportion of 6:10. The theory concerning the reduction in size of the 1<sup>st</sup> cohort after the Flavian period is not eligible, because Hyginus, who writes in the time of Trajan, also mentions a *milliaria* 1st cohort. Vegetius is wrong when stating that the cohorts 2-10 are divided into 5 *centuriae* of 100 men each, every *centuria* being subdivided into 10 *contubernia* of 10 men each. In any case, the 1<sup>st</sup> legionary cohort is an elite unit, not a residue for non-combatant units. It seems therefore that the opinion of Hyginus, that the 1st cohort has not 6 manipular *centuriae*, but 5 double in size, totalizing 800 soldiers (160 per *centuria*) or 960 men (192 per *centuria*), is more likely.

In addition to the infantry, the legion also had cavalry corps. Its presence, organization and numbers are as well contradictory points between the sources. Domaszewski advanced the hypothesis that this cavalry was established by Augustus, recalled by Vespasian and re-established by Trajan, but evidence of *equites legionis* exist even in the reign of Domitian. The same author revealed that it had no own organization, that the horsemen were included into regular *centuriae*.

The legionary cavalry is attested by the literary and epigraphic sources. Josephus Flavius (*De Bello Judaico* III.6.2) says that any legion has 120 horsemen attached, but doesn't mention their organization. This can mean that any legion had these cavalry corps, or that this was a special situation in the war of Judaea.<sup>44</sup> The horsemen did not form separate units, but were integrated in the regular *centuriae*.<sup>45</sup> Even if

<sup>34</sup> Davison 1989, 53.

<sup>35</sup> See Pitts, St. Joseph 1986, 147, 150.

<sup>36</sup> *De mun. castr.* 21: *cohors prima... quoniam duplum numerum habet, duplam pedaturam accipiet.*

<sup>37</sup> Frere 1980, 51.

<sup>38</sup> See Baatz 2000, 151, 156 and Davison 1989, 53, 55.

<sup>39</sup> Baatz 2000, 153 and Davison 1989, 53.

<sup>40</sup> Baatz 2000, 153.

<sup>41</sup> Baatz 2000, 153.

<sup>42</sup> Davison 1989, 53.

<sup>43</sup> Davison 1989, 55.

<sup>44</sup> Dixon, Southern 1992, 27, Breeze 1969, 53 and Roth 1994, 353.

<sup>45</sup> Roth 1994, 353.

there is an opinion that the horsemen were trained a lot better than the regular infantrymen,<sup>46</sup> this is not likely, because the specific of the legion is heavy infantry. One various opinion is that, during the Principate, the legion had constantly 120 *equites legionis*, who should have served as the legate's guard. However, during campaigns they would join the army commander's guard, for shock-attacks, in crisis situations.<sup>47</sup>

Vegetius enlarges the number of the *equites legionis* from 120 to 726,<sup>48</sup> this augmentation being established by the military reform of Gallienus.<sup>49</sup> The legionary cavalry is divided by Vegetius as follows: 132 *equites* in the 1<sup>st</sup> cohort and 66 in each of the other 9. This leads to a total of 726 horsemen in a legion, making it mobile, adapted to the 3<sup>rd</sup> and 4<sup>th</sup> Century necessities. The 66 horsemen of the 2 to 10 cohorts were organized into 2 *turmae* of 32 horsemen each, under the command of a *decurio*.<sup>50</sup> The epigraphic evidence tend to contradict the ancient author, except one, a ring discovered in Baden, having the inscription *eq. leg. XXI Sexti t.*, read *eques legionis XXI Sexti turma*, but not certain.<sup>51</sup> Anyway, most of the epigraphic evidence is contradicting Vegetius, attaching the horsemen to the *centuriae* (RIB 481, CIL III 11239, CIL VIII 2593). Every one of these indicate that the legionary cavalry had no organization of its own, the situation indicated by Vegetius may as well be the consequence of the reform of Gallienus, or a simple confusion with the organization of the *alae*.<sup>52</sup> The integration in *centuriae* is due to the fact that the horsemen received the same training as the infantrymen and were enlisted in the same registers.<sup>53</sup> Nevertheless, these horsemen had to have a form of organization Even if they seem to live in the same barracks as the infantrymen, they must have marched as a unit with their own officers.<sup>54</sup> There is evidence for Ti. Claudius Maximus, *quaestor* of the *equites legionis*, indicating a certain financial independence in the legion. The training matter is not so simple. There is proof for a separate training in emperor Hadrian's *Adlocutio* (CIL VIII 2532, 18042), congratulating the horsemen for improved training. Their separate marching is mentioned by Josephus Flavius (*De Bello Judaico* V.2.1) and Arrian. Not always the *equites legionis* took action as a separate unit, most of the time their mission were patrol, mailing service or escort.<sup>55</sup> In battle they probably joined the *alae* and the horsemen from the *cohortes equitatae*.<sup>56</sup>

The last legionary horsemen attested is Aufidius Victorinus, in April 3<sup>rd</sup> AD 242, promoted *decurio, ex equite legionis II Traianae* (P. Mich III, 164). The archaeological evidence is rare, and mostly speculative. At Inchtuthil, the presumed cavalry barracks are located in the *praetentura*.<sup>57</sup> The most probable site to be declared as cavalry stables are the buildings in the North-Eastern corner of Vindonissa fortress. These are rectangular rooms, 5 meter in length, with a small courtyard and urine sewer. Petrikovits states that the *tabernae* from the *retentura* are in fact stables, based on the evidence by Polybius.<sup>58</sup>

It is presumed that artillery was reserved to the legion only, every *centuria* having a *ballista*, and every cohort a catapult.<sup>59</sup> Another opinion is that there were 6 catapults or *ballistae* for each cohort, therefore 60 per legion. Conventionally, the auxiliaries have no artillery or siege weaponry.<sup>60</sup> Vegetius hint that 715 soldiers prepared for siege handling 65 siege weapons existed in a legion, but the most probable figure is 150-200 (*Epitoma Rei Militaris* II.4-5). There are no traces of special transformations for siege weapons in fortresses, and *ballistarii* probably ment the builders of the siege weapons, because Tacitus (*Historiae* IV.23) and Cassius Dio (*Historia Romana* LXIV.14.2) propose that every single

<sup>46</sup> Cf. Goldsworthy 1996, 16.

<sup>47</sup> Speidel 1994, 36, 39.

<sup>48</sup> *Epitoma Rei Militaris* II.6: *I cohors habet equites loricatorum CXXXII, II, III, IIII, V, VI, VII, VIII, VIII, X habent equites LXVI.*

<sup>49</sup> See Richardot 1995, 414.

<sup>50</sup> See Breeze 1969, 53 and Dixon. Southern 1992, 28.

<sup>51</sup> Breeze 1969, 53.

<sup>52</sup> Breeze 1969, 54.

<sup>53</sup> Dixon. Southern 1992, 28.

<sup>54</sup> Cf. Breeze 1969, 54.

<sup>55</sup> Dixon, Southern 1992, 30.

<sup>56</sup> Breeze 1969, 55.

<sup>57</sup> Breeze 1969, 55.

<sup>58</sup> Davison 1989, 151.

<sup>59</sup> Goldsworthy 1996, 17.

<sup>60</sup> Luttwak 1979, 45. However, inside many auxiliary forts are quite a number of archaeological proves for the existence of these kind of weaponry.

legionaire was trained in siege weaponry handling. These men were assigned to the regular *centuriae*. In theory, any soldier, even on remote missions, would not disappear from the lists of his original *centuria*.<sup>61</sup>

To summarise: the most prudent conclusion about the organization and the numbers of the legion would have to be similar to Roth's. Therefore, the legion is divided into 10 cohorts, of which the 1st is *milliaria* and the other 9 *quingenariae*. The quingenary cohorts are divided into 6 *centuriae*, 80 soldiers each, separated into 10 *contubernia* of 8 soldiers each. The 1st cohort is double in size, and it has 5 or 6 double-sized *centuriae*, 160 soldiers each. In case of only 5, one of them could be 320 men strong, or each 192. There are only 5 active centurions in the 1st cohort, sustaining the 5 *centuriae* division. The artillery operators and the legionary horsemen are integrated statistically in the *centuriae*. Hence, a quingenary cohort has 480 soldiers and a milliary one, 960, adding up to a total of 5,280 soldiers. Following the proportion of 1 servant to 4 soldiers, the extended total of the legion, including the *lixae*, is 6,600 men.

### The *ala*

*Auxilia* was not only an attendant to the legion, but also complementary to it. Roman auxiliary cavalry has two regular forms of organization: *ala* and *cohors equitata*, and many more irregular ones: *numeri*, *exploratores*, *veredarii*, *cunei* or *equites singulares*. The permanency and the organization of the Roman auxiliary troops, as well as the long term military service, was provided by Augustus himself.<sup>62</sup> At least in theory, the auxiliary cavalry was better trained than the legionary horsemen and served Roman necessities for a cavalry force. Its organization is vaguely known and there is still much to be discovered.

In the Republican period, *ala* is the name of the two flank corps, provided by the *socii*, where, eventually, will be the position of the cavalry. This meaning was in state until the end of the Republic. The cavalry corps recruited amongst the *socii* was never organized like a regular troop, but was divided into *turmae*, the Imperial auxiliary cavalry maintaining this framework (e.g. a Hispanic cavalry corp that took part at the allies war, was called *turma Sallvitan*). The usage of the term *ala* by Livy shows that he was aware of its narrow meaning, and that the troop was already established. Plus, Velleius states the fact that 14 *alae* took part to the Pannonian campaign in AD 6-9. Thus, it would seem that Augustus founded and organized the *ala*. Caesar, in *De Bello Gallico*, mentions barbarian cavalry corps present in his army, lead by *praefecti equitum*, which could not have been *turmae*, because there is proof for decurions also. The legal establishment of these corps took place probably after the civil wars, when the need for auxiliary cavalry occurred. Most of Caesar's *praefecti equitum* were barbarian chieftains, like Dumnorix, but also Roman officers, like Scaeva. It is possible that the cavalry regiments from Gaul were brought in for the civil wars, and put under the command of Roman officers, explaining thus the later name of the *alae* that they became.<sup>63</sup>

During Augustus' reign it seems that most of the *alae* were commanded by *primipilares*, although some can be lead by senatorial commanders.<sup>64</sup> The difference between *praefectus equitatus* (Dumnorix, Crassus) and *praefectus equitum* (Cotus, Q. Atius Varus) is that the first commands a cavalry unit in general, and the second has the meaning of the later „colonel”, the commander of the whole cavalry. *Ala quingenaria* was organized by Augustus, in Caesar's army the cavalry units being 200 or 800 men strong. While Domaszewski sustains that the command of the early *alae* was entrusted to the *primipilares*, the epigraphic evidence shows that there are twice as many equestrian officers in their command, previously prepared as *tribuni militum*. The fact probably is that it was equally possible for a *primus pilus*, a legionary centurion, a local nobleman or an equestrian officer to hold the command of an early *ala*. Tacitus, in *Historiae*, mentions local noblemen as commanders of *alae* until later in the 1<sup>st</sup> C, especially on the Rhine border.<sup>65</sup> Birley thinks that the auxiliary cavalry was organized by Tiberius, because Augustus created many prototypes, but never decided on one.<sup>66</sup> In the name of an *ala*, the genitive form of the commander name means that the character is still in command, and the adjectival form means that he was a former commander, probably the first. In the first case, there are only four examples: *ala Patru*

<sup>61</sup> See Roth 1994, 353-354.

<sup>62</sup> See Dobson 1986, 14-15.

<sup>63</sup> Cheesman 1914, 22-25.

<sup>64</sup> Cf. Birley 1978, 257.

<sup>65</sup> Birley 1978, 258-259, 262.

<sup>66</sup> See Birley 1978, 272.

(CIL IX 733), *ala Scaeve* (CIL XI 6011), *ala Pomponiani* (CIL XIII 8097) and *ala Rusonis* (CIL XIII 7031), all dating in Augustus' reign. It is therefore safe to state that it existed a temporary form of organization of the *alae*, when there was no need for a permanent name. The need for permanency lead to the changing or establishment of final names.<sup>67</sup>

For the determination of the size of *alae* we have to refer at first to Hyginus. He says that both the *alae* and the cohorts were *quingenariae* and *milliariae*, having the nominal size of 500 and 1000 men. The 500 men *ala* was preferred in the 1<sup>st</sup> Century AD, when the 1000 men was used more beginning with Trajan's reign.<sup>68</sup> Hyginus reveals that the *ala quingenaria* was divided into 16 *turmae*, which is confirmed by CIL III 6581, from Alexandria, and the *ala milliaria* into 24,<sup>69</sup> but does not mention the size of the units (*De mun. castr.* 16). Vegetius seems to fill in the blanks offering the number of 32 horsemen per *turma* for an *ala quingenaria*.<sup>70</sup> However, there is a second opinion. CIL III 6627, from Coptos, records the organization of a *vexillatio* composed out of 3 *alae* and 7 cohorts<sup>71</sup>. Equally divided there would be 42 men in each *turma*. Arrian (*Taktika* 18), governor of Cappadocia in time of emperor Hadrian, states that an *ala* has 512 horsemen, divided into 16 *turmae*, 32 horsemen each.<sup>72</sup> A fragment of *ala Commagenorum's pridianum* (*Ch LA XI n501*), dating from the first half of the 1<sup>st</sup> Century registers a number of 434 horsemen and 12 decurions, which would indicate a number of 36 horsemen per *turma*, but not all the officers are present. A *papyrus* belonging to *ala veterana Gallica* (*P. Lond.* 482, AD 130) records 30 horsemen, without the officer, in a *turma*.<sup>73</sup> The number offered by Vegetius seems to be the most probable, 32 horsemen per *turma*, and is shared by most of the contemporary scholars. In this case, the total size of a quingenary *ala* is likely to be 512 horsemen.<sup>74</sup>

Although the exact moment of the establishment of *alae milliariae* is not known, Josephus Flavius (*De Bello Judaico* 3.67) attests the existence of the milliary infantry units in Syria in AD 67. The first evidence of a milliary *ala* is CIL VI 31032 = ILS 1428, mentioning *Ti. Claudius Pollio ... praef alae Flaviae milliariae*, dating from about the same time that Plinius was tribune in Syria, soon after AD 81. The usage of the whole word *milliaria*, and not of the sign ∞, could indicate perhaps that this attribute was recent and not yet in full use. The first time that this sign occurs is in AD 98, even if the whole word still appears on a diploma in Roman Britain from 103 AD. The second evidence for a milliary *ala* is CIL XVI 55, from Raetia, belonging to *ala II Flavia pia fidelis milliaria*, AD 107. The first of the *alae Flaviae* mentioned above has no ordinary number, which means that it was recruited before the second.<sup>75</sup> Tacitus says that *ala Britannica* was recruited before emperor Vespasian, but only after 102 AD it becomes *ala I Flavia Britannica milliaria c. R.* (CIL XVI 47), for services brought to the Imperial family (*Historiae* III.41).<sup>76</sup> The most common opinion is that Corbulo founded the 800 horsemen cavalry unit, which was later established as *ala Flavia milliaria*, attested in Syria in AD 81.<sup>77</sup>

*Ala milliaria* is the elite corp of the Roman cavalry and it is created either by the doubling of a quingenary one, or by new draughts.<sup>78</sup> By AD 150, there were 10 *alae milliariae* in all the empire, distributed in 8 provinces.<sup>79</sup>

<sup>67</sup> Birley 1978, 262-264.

<sup>68</sup> Cheesman 1914, 25.

<sup>69</sup> *De mun. castr.* 16: *Nunc ut suo referam loco, ad alam milliariam turmas habet XXIII ... ala quingenaria turmas habet XVI...*

<sup>70</sup> *Epitoma Rei Militaris*, II.14: *Quemadmodum inter pedites centuria vel manipulus appellantur, ita inter equites turma dicitur, et habet una turma equites XXXII.* See also Bartoloni 1996, 55.

<sup>71</sup> It is as it follows: the 3 *alae* – 5 decurions, 1 *duplicarius*, 4 *sesquipedarii*, 424 horsemen, and the 7 cohorts – 10 centurions, 61 horsemen, 800 *miles*.

<sup>72</sup> Cheesman 1914, 26 and Dixon, Southern 1992, 23.

<sup>73</sup> Dixon, Southern 1992, 23.

<sup>74</sup> Breeze 1993, 291, Luttwak 1979, 43, Bartoloni 1996, 56 and Goldsworthy 1996, 22.

<sup>75</sup> Birley 1966, 55.

<sup>76</sup> See Birley 1966, 56.

<sup>77</sup> Kennedy 1985, 185.

<sup>78</sup> Dixon, Southern 1992, 23.

<sup>79</sup> Birley 1966, 57. Except *ala I Bosporanorum* nine of them are *milliariae*: *ala Petriana* (*Britannia*), *ala II Flavia* (*Raetia*), *ala Tampiana* (*Noricum*), *ala Contariorum* (*Pannonia Superior*), *ala Britannica* (*Pannonia Inferior*), *ala I Batavorum* (*Dacia Superior*), *ala Flavia* (?) (*Syria*), *ala Dromadariorum* (*Syria*), *ala Nerviana* (*Mauretania Caesariensis*).



Hyginus states that the *ala milliaria* was divided into 24 *de turmae* (*De mun. castr.* 16). The number of horsemen in a *turma* is not different from the numbers of a *turma* from a quingenary *ala*, because the unit is not double in size, but larger by 1.5 times.<sup>80</sup> The proportion of *turmae* between *ala quingenaria* and *ala milliaria* is not 1:2, as it seems, but 2:3.<sup>81</sup> Hence, we have a total size of 768 horsemen in an *ala milliaria*, number accepted by most of the specialists.<sup>82</sup> The contrary opinion maintains that a *turma* of a milliary *ala* has 42 horsemen, which would lead to a total of nearly 1,000, but this is unlikely.<sup>83</sup>

The *dromedarii* corps appear only in the East, and except for the *ala I Ulpia dromedariorum milliaria*, founded by Trajan, for the Syrian wars, *dromedarii* were integrated into other units. In two *papyri* belonging to cohort XX *Palmyrenorum* the 20 respectively 35 camel riders belong to the *pedites centuriae*, and it seems that they were infantrymen at first.<sup>84</sup>

Likewise, the archaeological evidence is scarce and not too clear for the size of an *ala*. A *turma* consisting of 32 horsemen divided by 8 leaves place for 4 *contubernia* per *turma*. Thus, ideally the barracks of an *ala quingenaria* are placed in groups of 8, with 8 *contubernia* each. The 24 *turmae* of an *ala milliaria* have 12 groups of barracks, 8 *contubernia* each, obtaining the total of 768 horsemen. Some doubts are expressed in connection with this total, leaving a less likely alternative: a *turma* of *ala milliaria* having 40 horsemen, accommodated in five group of barracks, 10 *contubernia* each.<sup>85</sup> Typical sites for this kind of units are Chesters, Aalen or Heidenheim.

According to the literary and epigraphical sources, in this moment, it can be stated that an *ala quingenaria* has 512 horsemen, divided into 16 *turmae* of 32 horsemen each, and an *ala milliaria* 768, divided into 24 *turmae*, 32 horsemen each. However, the number is certainly not a fixed one.

### The auxiliary cohort

The elite of the legions formed the praetorian guard. Even from the time of the Punic wars, a *cohors praetoria* was established, having as main concerns the safety of the *praetorium* and of the commanders. Marius made it permanent and legal, but it was Augustus who reorganized it totally. Nine milliary cohorts were formed, from which only three were garrisoned in Rome. Tiberius brought them all to Rome, gave them a single commander and the subsequent role that we later recognize.<sup>86</sup> It was only Septimius Severus that enlarged their number to ten, and brought a legion in garrison to Alba Longa, near Rome, for a better control of the *cohortes praetoriae*.

At first the term *cohors* was used in the Republican period to designate the units recruited amongst the allies of Rome, the *socii*, and to enhance the difference between them and the legions, made out completely of *cives Romani*. In this case, there is no connection between the Republican and the Imperial auxiliary cohort, the reform of Augustus being deeper.<sup>87</sup>

Isaac considers the auxiliary troops as emergency draughts, at least at the beginning, as assistance to the legions, *auxilia*. He considers the special draughts as war necessities only.<sup>88</sup>

During the 1<sup>st</sup> and the 2<sup>nd</sup> Centuries AD, the total size of the auxiliary troops never exceeded 215,000 men. To maintain this amount of soldiers, it was estimated a draught of 10,500 men yearly, for casualty replacement, and the 6,500 men discharged each year.<sup>89</sup> The need for the fixed of the auxiliary units emerged immediately after the civil war, and lead to the stabilization of final names.<sup>90</sup>

<sup>80</sup> Dixon, Southern 1992, 24.

<sup>81</sup> Cf. Bartoloni 1996, 54.

<sup>82</sup> See for instance Goldsworthy 1996, 22, Bartoloni 1996, 56 and Breeze 1993, 291.

<sup>83</sup> See Luttwak 1979, 43.

<sup>84</sup> Dixon, Southern 1992, 32. For camel rider Hyginus uses the word *epibata*, not *dromedarius*, meaning soldiers at sea, resulting from this that he wrote his work before Trajan established this kind of unit.

<sup>85</sup> See for examples Davison 1989, 166.

<sup>86</sup> Brand 1968, 113, 119.

<sup>87</sup> Cheesman 1914, 22, 25.

<sup>88</sup> In peacetime, the numbers of the units were allowed to drop, together with the expenses, and in wartime, the size was increased over the regular numbers, Isaac 1995, *passim*. This would explain the variation of numbers in military *papyri*, see also Dobson 1986, 16, 25.

<sup>89</sup> For some calculations see Haynes 2000, 63.

<sup>90</sup> Birley 1978, 264.

Regarding draught a known pretext for the recruitment of citizen cohorts was the revolt of Pannonia, after the disaster of Varrus. Such units are *cohors Apula*, recruited in Apulia (Italy), *cohors Campana*, *Italica*, all which do not have the mention *civium Romanorum*, in the 1<sup>st</sup> Century AD, because it was useless.<sup>91</sup>

Like the *alae*, the auxiliary cohorts divide in two categories: *quingenariae*, having the nominal size of 500 men strong, and *milliariae*, having the nominal size of 1000 men strong. If they contain only infantrymen, are *peditatae*, and if they contain cavalry squads also, are named *equitatae*. The *peditatae* cohorts are divided into *centuriae*, six a quingenary one, and ten a milliary one, a fact that we know from Hyginus' writings.<sup>92</sup>

The number of men in a *centuria* may have been 80 or 100. In any case, the archaeological evidence show that they were equal in numbers, as generally there is almost the same number of *contubernia*. Although Hyginus would indicate 100 men in a *centuria*, the most common number in use is 80, because of the epigraphical evidence, as an inscription from Coptos (CIL III 6627), that indicates a 80 men *centuria*. Josephus Flavius is rather unclear regarding this matter, but the general opinion is that it is safe to consider that a *cohors peditata quingenaria* had 480 men, and a *cohors peditata milliaria* had 800 men, although the variation of the total size is normal and quite common.<sup>93</sup> There are no standard measurements for the auxiliary forts. Theoretically, each *contubernium* has 8 living places, and each *centuria* 80. In this way, we have 6 barracks for a quingenary cohort, with 10 *contubernia* each, and 10 barracks for a milliary cohort 10 *contubernia* each.<sup>94</sup> The division of a *centuria* in 10 *contubernia*, is similar to the one of the legionary cohorts II-X. The whole of the unit was not always garrisoned inside the fort, as we find out from the Vindolanda writing tablets with many soldiers in various missions.<sup>95</sup>

The *pridianum* of *cohors I Hispanorum veterana* from AD 100 or 105 shows a formidable detachment of the soldiers with multiple duties, in various provinces, including the participation at the Moesian fleet and the casualties.<sup>96</sup>

Josephus states that, in 67 AD, Vespasian's army, when entering Judaea, had 18 cohorts, and added another 5 cohorts and an *ala* from Caesarea and 5 *alae* from Syria (*De Bello Judaico* III.4.2). Ten of the cohorts were 1,000 infantrymen strong and 13, 600 infantrymen and 120 horsemen strong. So, it would seem that the milliary auxiliary units first emerged before the Flavian rule, but that they improved and multiplied in this period and during Trajan's reign. On the other hand, Birley and Holder propose that milliary cohorts never came to be before the Flavians, and Josephus is taken as doubtful because of his numeric exaggerations. In the count of Vespasian's army, he contradicts other sources, as Suetonius (*Vespasianus* 4), who mentions 10 cohorts and 8 *alae*, or Tacitus (*Historiae* 5.1), who mentions that Titus alone had 20 cohorts and 8 *alae*. For the benefit of Josephus stand the misreading of the figures by later copists, and the fact that Vespasian's army, totalizing about 60,000 men, was not too large for such an expedition. Moreover, his writings were very well known and read in Rome, so he should be a valuable source to this matter.<sup>97</sup>

Amongst the major military changes that took place in the Julio-Claudian period, the ones made by Claudius and Cn. Domitius Corbulo in the East are the most important. Tacitus claims that Domitius Corbulo and his predecessors at the governorship of Syria lead an extensive draught policy in the 7<sup>th</sup> decade of the 1<sup>st</sup> Century AD (*Annales* XV.3.3). It is in these times of turmoil, that the origins of the *milliariae* auxiliary units can be placed. At first, the draught method was the doubling in size of the *quingenariae* units, because it was the fastest, the easiest and the cheapest way, rather than founding new units, with a new staff. This method of emergence is attested by *cohors I fida Vardullorum*, in Britain,

<sup>91</sup> This kind of title will be used from early 2nd Century emerging only in the 2nd C, cf. Speidel 1976, 340.

<sup>92</sup> *De mun. castr.* 28: *Cohors peditata milliaria habet centurias X... item peditata quingenaria habet centurias VI, reliqua ut supra.*

<sup>93</sup> See Cheesman 1914, 28.

<sup>94</sup> Davison 1989, 166.

<sup>95</sup> From the registry of *cohors I Tungrorum milliaria*, from AD 90 we can see that out of the 752 men, 296 were garrisoned at Vindolanda, 337 at Corbridge and 119 were detached with various duties, this meaning mostly the establishment of outposts, see Bowman, Thomas 1994, *passim*.

<sup>96</sup> Fink 1971, 217 ff.

<sup>97</sup> See Kennedy 1983, 253-255.

which was *quingenaria* between AD 98 and AD 105 (CIL XVI 43, 51), and *milliaria* in AD 122 (CIL XVI 69). Any unit without any dynastic title, attested between Vespasian and Septimius Severus should be considered as having its origins in the Julio-Claudian period<sup>98</sup>. The first diploma attesting a *cohors milliaria* is CIL XVI 31, dating from AD 85, in Pannonia.

Some scholars tried to find archaeological proof of a fort type, but the evidences are far to be clear and every fort has its particularities. The auxiliary fort of Gelligaer was built for a *cohors quingenaria peditata*, because it contains 6 barracks, one for each *centuria*, so was Beckfoot. On the other hand, Fendoch has 10 barracks, for a *cohors milliaria peditata*.<sup>99</sup>

The situation is getting convolute in the case of the *cohortes equitatae*. The idea for combined troops of infantry and cavalry did not belong to the Romans, but they reactivated it, probably after the example offered by the Germans, and took over by Caesar (*De Bello Gallico* VII.65). One of the first units of this type is *cohors Ubiorum* (CIL X 4862, AD 14), and the need for it is in fact the need for cavalry squads in many places at once. *Equites cohortales* are in fact infantrymen on a horse, not horsemen *per se*, their equipment being worse than the *alae*'s, as Hadrian mentions himself, addressing to the armies in Africa (CIL VIII 2532, 18042). Hyginus declare that a *cohors equitata milliaria* has 10 infantry *centuriae* (760 men) and 240 horsemen, and a *quingenaria* only 6 infantry *centuriae* and 120 horsemen.<sup>100</sup> Out of an inscription in Ankara (CIL III 6760), we know that there are four decurions for a *cohors equitata quingenaria*, each *turma* having thus 30 horsemen.<sup>101</sup> Another figure comes from Josephus Flavius (*De Bello Judaico* 3.2.67), who says that a *cohors equitata quingenaria* has 600 infantry and 120 cavalry, in 67 AD.

In sources like the *pridianum* of the cohort *I Augusta Praetoria Lusitanorum quingenaria* (BGU 696) and the *pridianum* of the cohort *I Hispanorum veterana equitata quingenaria*, we find the same number of *turmae*: that is four, with 30 horsemen each, situation close to the one in the *alae*.<sup>102</sup> Keeping the proportion of *turmae* in the *alae*, of two to three, we reach the conclusion that a *cohors equitata milliaria*, has six *turmae*, 40 horsemen each, in the case that we accept the augmentation of the size of a *turma*, depending of the nominal size of the unit.<sup>103</sup> In this course of action, the size of a *centuria* may be reduced to 60 or 64, to fit better in the *contubernia*. This is confirmed by the official papers of *cohors I Augusta Praetoria Lusitanorum*, from Aegyptus, which, in the 1st of January 156 had: 6 centurions, 3 decurions, 114 horsemen, 19 *dromedarii* and 363 infantrymen, for a total of 506 men.<sup>104</sup>

The best epigraphical evidence are the *acta diurna* of the *cohors XX Palmyrenorum*.<sup>105</sup> The troop is *milliaria equitata* and was brought to Dura Europos in AD 208, where it was garrisoned until AD 256, when the city is finally conquered by the Persians. Amongst these papers, there are two *papyri* (*Dura* 3, *Dura* 9), that offer us information about the size of the unit in two different days, from the reign of Severus Alexander, respectively Gordian III. In the first, a total size of 914 results: 224 horsemen, 34 *meharisti*<sup>106</sup> and 657 infantrymen, from which nine centurions and five decurions. The variation between these figures and the ones offered by Hyginus may be explained by the absence of many soldiers, detached with various duties (constructions, supplies, police services, custom services etc.). In *P. Dura* 9, dating during Gordian III's reign, the number of centurions is six, of decurions four, of infantrymen 512 and of horsemen 133. We can easily observe that two decurions and their *turmae* are detached in missions, the figures expressing the size *in hibernis*. *Papyri Dura* 100 and 101, which follow the enlistments in the unit between years AD 192 and AD 222, offer apparently numerical aberrances, because in calculating the total size, in the AD 219 the unit had 335 horsemen. This may be explained by

<sup>98</sup> Kennedy 1983, 259, 261.

<sup>99</sup> Davison 1989, 205.

<sup>100</sup> *De mun. castr.* 25-27: *Cohors equitata quingenaria in dimidio eandem rationem continet, quam cohors milliaria. Habet itaque cohors equitata milliaria centurias X peditum, equitum CCXL... Cohors equitata quingenaria habet centurias VI, reliqua pro parte dimida.*

<sup>101</sup> Cheesman 1914, 28-29.

<sup>102</sup> See Bartoloni 1996, 59.

<sup>103</sup> Bartoloni 1996, 60.

<sup>104</sup> Cheesman 1914, 30.

<sup>105</sup> See the two complete rosters of *coh. XX Palmyrenorum*, *P.Dura*, 100, 101.

<sup>106</sup> A variety of faster *dromedarii*.

the plan of a Parthian expedition of Caracalla, where he intended to use a large number of cavalry units, thus appearing the need to supplement the size of the already existing units.<sup>107</sup>

The archaeological evidences do not cast enough light on the subject because of the numerous variations and mainly because of the permanent problematic of 'where did they put the horses'.<sup>108</sup>

Some of the scholars felt obliged to use several unorthodox methods to obtain a conclusion on this matter, as close as possible to the nominal size of the unit in discussion. Thus, a natural reconstruction would look as follows: A *cohors equitata quingenaria* has 6 infantry *centuriae*, 80 men each, therefore 480 *pedites*, and 4 cavalry *turnae*, 30-32 men each, therefore 120-128 *equites*. But in this manner, we would obtain a total size of 600 men, not 500, as the nominal size. For the result to correspond to the nominal size, the size of each infantry *centuria* was diminished, by taking advantage of the lack of exactity in the literary sources, to 64 or even 60 men. For the *cohortes equitatae milliariae*, naturally would be to divide into 10 *centuriae*, 80 men each, thus 800 infantry and 240 cavalry, the horsemen being divided into 10 *turnae* of 24, or into 6 *turnae* of 40.<sup>109</sup> Breeze proposes that the number of horsemen in a *cohors equitata milliaria* to be 256, equally divided into 8 *turnae* of 32.<sup>110</sup> On the other hand, Hassall doubts the correct reading of Hyginus' writings, and states that the real number of *turnae* is 10, of 24 horsemen each.<sup>111</sup>

As we clearly can see above, a prudent conclusion on this matter still waits to be drawn, although in this state of research and with this amount of sources it is impossible. Even if the size of the *peditatae* cohorts seem to be easy to determine, the real, unsolvable problem appear in the case of the *cohortes equitatae*.

### Other units

The term *numerus* is used in the Republican period to designate any kind of unit, regular or not, including the legion, but from the 2nd Century on, has a different sense, naming only a category of irregular troops, which cannot be named legions, cohorts or *alae*. It is used also for *equites singulares Augusti* and *equites singulares* of the governors, for *stratores*, *veredarii*, but also for marginal, barbarian units. For instance, Mommsen believes that *numeri* are called only the barbarian units, on the edges of the empire, but Callies that it applies to military units, in general, and that it is followed by an explicative attribute (*frumentariorum*) or by the mention of the ethnic composition (*Palmyrenorum*). Speidel replaces the national *numeri* phrase with *nationes*, and Lenoir states that it was a specific term, established in the time of Hadrian. The national *numeri* come from areas and populations at the border of the empire, and the practice of recruitments in this area dates from the time of the Republic, when it was custom for the barbarian warlords to help their Roman allies according to some legal treaties. It is generally admitted that the draughts were made in the provinces but also outside of them. The *numeri* are primarily present in Upper Germany, Dacia and Africa.<sup>112</sup>

From the beginning there is a fundamental gap between the national *numeri* and the simple *numeri*. *Equites singulares Augusti* are called *numerus* in more than one inscription (CIL VI 3216, 3259, 3311 and 31139), also the *frumentarii* (CIL VI 3341), even though we know that the *equites singulares Augusti* were recruited amongst the horsemen in the *alae*, and the *frumentarii* amongst the legionaries. The *frumentarii* initially meant the providers of corn - *frumentum* for the Roman troops, but this was only a cover for their real intelligence and secret police missions. Their central base is the *castra peregrina* on *Mons Caelius*, and their commander is a *princeps peregrinorum*, with the rank of a senior centurion. An example of a *frumentarius* mission is the providing of security for a prison in Ephesus (CIL III 433 = ILS 2368).<sup>113</sup> A clear distinction is also made between the names of the vexillation which contain the geographical origin and the national *numeri*. In the case of the vexillations, the zone is mentioned after the name of the unit – *vexillarii Africae et Mauretaniae Caesariensis*, and in the case of *nationes*, the

<sup>107</sup> See Bartoloni 1996, 61-64.

<sup>108</sup> On the matter see Sommer 1995, and most recently Hodgson 2002.

<sup>109</sup> Davison 1989, 167.

<sup>110</sup> Breeze 1993, 291. The same opinion in Goldsworthy 1996, 22.

<sup>111</sup> See Hassall 1983, 98

<sup>112</sup> Southern 1989, *passim*; Kerneis-Poly 1996, 69-72.

<sup>113</sup> Mann 1988, 149.

ethnic mention is put before the name of the unit – *Mauri gentiles* or *Palmyreni sagitarii*.<sup>114</sup> In theory, there are no *numeri* mentioned in military diplomas. However, the presence of the phrase *Mauris eq[uitibus et peditibus qui sunt in Moe]sia Supe[riore]* in a Moesian diploma (CIL XVI 114) proves the special grant of privileges to the soldiers in these units, not the emergence of *numeri* diplomas.<sup>115</sup>

Although initially commanded by centurions as *praepositi*, they will receive equestrian commanders, and later *ala* or cohort status. *Veredarii* are first mentioned in CIL III 13795, from AD 138, not as *militēs*, but as messengers, emissaries, escorts or guards of the roads and customs.

There are only two decurions attested in *numeri*: one in *numerus Maurorum* from Dacia (CIL III 7695) and the other in *numerus Palmyrenorum* from El Kantara. It is highly possible that most of the *numeri* are cavalry or partly cavalry units, in which case they should be divided into *turma*. The prestige of the Moor horsemen, and the decurion mentioned in Dacia, would lead us to the conclusion that most of the Moor units are cavalry units, although there are also Moor *militēs* and cohorts. In Dacia, the Moor troops are probably mixed, because there is proof for an *eques* at Porolissum (CIL III 803), but also a *miles* at Tibiscum, however *miles* could mean also an *eques*.<sup>116</sup> The best example for a *numerus* as a cavalry unit is the one recorded on the inscriptions of Thessalonica (IDRE II, 356) as *ala equitum numeri Palmyrenorum Porolissensium*.

*Exploratores* are cavalry units, only 5 *pedites* being present in the *cohors XX Palmyrenorum*. *Cunei*, a variety of cavalry *numeri*, are little known.<sup>117</sup>

The size of the *numeri* varies largely. Cheesman and MacMullen nominate 200 men, Rowell 500, because *De mun. castr.* introduces the Palmyrenes and Britons in units of 500, and there are *praefecti* who command 500 men units, and Wagner suggests that the difference between *auxilia* and *numeri* was of status, not of size.<sup>118</sup> An interesting situation is that of the *numerus Syrorum* in Dacia. It is mentioned in several places at once, and it seems that it was garrisoned in several forts on the river Olt. Speidel states that the same unit is transferred early in the 3<sup>rd</sup> Century in Mauretania, and that over there was commanded by a tribune, which would indicate 1,000 men strength.<sup>119</sup> Again the best example to identify a *numerus* with a auxiliary unit is the inscription already mentioned of Thessalonica where the former *numerus Palmyrenorum Porolissensium* it is in 3<sup>rd</sup> Century named *ala* (IDRE II, 356). The association between the fortlets and *numeri* (cca. 0,6 ha) could be only sometimes valid for instance for Upper Germany,<sup>120</sup> because we don't know exactly the size of the *numeri* fortlets or if they were garrisoned separately or together with other units. The only fortlet that we know for sure to have belong to a *numerus*, and totally excavated, is Hesselbach, and Baatz concluded, after the size of the barracks, that every one of the four *centuriae* had 30-32 men, the grand total being 130-140 men.<sup>121</sup>

The relation between the fortlets on *limes transalutanus* and *numeri* was made only on their size basis, although this fact is not equally accepted.<sup>122</sup> In general, the *exploratores* units, garrisoned along with the *numeri*, were 20-30 men strong, at the most. A special situation is that of the fort at Niederbieber, which is 5,2 ha in size. It contained 2 *numeri*: *numerus Brittonum Antoninianorum* (CIL XIII 7749, 7762) and *numerus exploratorum Germanicianorum Divitiensium* (CIL XIII 7750, 7751, 7761, 11979), but not at the same time. The second unit has a *praefectus* (CIL XIII 6814) in command, in AD 221.<sup>123</sup> An inscription at Walldürn (CIL XIII 6592) records the garrisoning here of *numerus exploratorum Sueborum et Brittonum*, recruited amongst the *gentiles*, men outside the Roman law, *dediticii*.<sup>124</sup>

<sup>114</sup> Mann 1954, 501-502. For the use of the term *vexillatio* see Speidel 1975, 219, 221-223. However, the term is used as it is also the designation *numerus* as a simple detachment, subunit or even a military troop, see Speidel 1977 with the bibliography.

<sup>115</sup> Mann 1954, 503.

<sup>116</sup> There is at least one *miles* attested in an *ala* (AE 1940, 5).

<sup>117</sup> See Dixon, Southern 1992, 32.

<sup>118</sup> For the legal status of *numeri* see Stein 1932, 233 f.; Rowell 1936; Vittinghoff 1950; Mann 1954; Callies 1964; Baatz 1973, 72-76; Speidel 1975; Mann 1985; Southern 1989, 106-110; Reuter 1999.

<sup>119</sup> Speidel 1973, *passim*.

<sup>120</sup> See about Britons, Southern 1989, 94-98, 118-122.

<sup>121</sup> Baatz 1973, *passim*.

<sup>122</sup> It is highly probable that where are two forts in the vicinity of each other one of them to be garrisoned by an ethnical *numerus*. For some forts of Germania Superior and Dacia see Marcu 2004; Marcu 2007.

<sup>123</sup> Southern 1989, 104.

<sup>124</sup> Cf. Kerneis-Poly 1996, 76.

Fortlets are not necessarily built for ethnical *numeri*. They are built for overseeing and land recognition, in a place that does not need a fort and a unit, but needs more than a watch tower or an outpost. Their size is mostly under 0,2 ha. They can garrison units with most of their *centuriae* detached on duties, or *numeri*. For instance, the garrison of the *castellum* Degerfeld was not more than a *centuria*, probably detached for about 33 km. The barracks at Barburgh Mill have 10 *contubernia* and an officer headquarter, so the total size could not exceed a *centuria*. In the fort at Crawford (Scotland) 10 buildings were revealed, as barracks for 4 *centuriae* at the most. A half of a *cohors quingenaria equitata*, which means 3 *centuriae* and 2 *turnae*, was garrisoned here, and for those detached on duties were not built any barracks. On the other hand, the fort at Birdoswald, on Hadrian's Wall, was built for the whole cohort *II Tungrorum*, although most of it was detached afar.<sup>125</sup> At Künzing there is a special barrack, with the centurion quarter facing on the inside, which could have belong to *exploratores*.<sup>126</sup>

The emperor and the provincial governors had, together with an infantry guard, also a horse guard – *equites singulares*. Since the 2<sup>nd</sup> Century BC there was a regular infantry and cavalry guard, recruited amongst the non-italian allies, belonging to the consules or *quaestores*, as Polybius (*Historiae* 6.31.1-4) or Livy (*Ab Urbe Condita* 42.58) suggests. We do not know its exact name, but it could as well be *singulares*. Petreius, the enemy of Caesar from Hispania, had a guard formed from servants, named *caetrati* – Spaniard shieldbearers and hispanic auxiliary cavalry. The reference to its members is made as *beneficiarii*. *Singulares* guards existed since the beginning of the Principate, since units recruited from them in the Julio-Claudian period exist: *ala singularium*, in AD 69, *ala praetoria singularium* with Germanicus. The Praetorian guard was reserved for the emperor, but to the commanders of provincial armies was entrusted an auxiliary guard, in the shape of a *numerus* of *pedites* and *equites singulares*. The first mention of *singulares* dates from the Judaeen war of Vespasian.<sup>127</sup>

*Equites singulares Augusti* were directly recruited from Italy, until Septimius Severus' reign, then amongst the *equites legionis* or even *alae*. The governor's horse guard were recruited amongst the *auxilia* of the provinces, and could be even *milliariae*, in military provinces, with an equal number of infantrymen and horsemen. In one case, a decurion is present, which could indicate the division in *turnae*, but also a *signifer*, for tactical organization. The members of the guard belong to the unit they normally serve, and they don't received any additional money for their service in the guard.<sup>128</sup>

Plinius consults emperor Trajan (*Epistolae* 20, 21, 22) about the staff of the Pontic shore prefect: 10 infantrymen, 2 horsemen and one centurion, so that a small amount of men are detached from their unit. The size of the staff of the officials was decided at Rome, but the governor's guard size would have depended on the rank and the military importance of the province. It was thought that the procurator of Raetia had a horse guard of 240 *equites*, because 8 decurions dedicate CIL V 8660 to him, but this is not necessarily so. In theory, there are no reliable sources regarding the size of the governor's guards. The closest proof is that from these kind of units were rarely formed *alae* or regular cohorts. There are *singulares* units detached from Britannia to the Danube, or from Pannonia to Mauretania. The 80 *singulares* recorded in the roster of *coh. XX Palmyrenorum* would indicate a total size of 1,000 men in the guard of the Syria Coele governor, divided into 500 *pedites* and 500 *equites* and possibly a squad of *dromedarii*. In any province, *singulares* count for as much as 5% of the total provincial army. Josephus Flavius (*De Bello Judaico* 5.52), gives Titus a guard of 600 *equites singulares*, during the Judaeen war. It was Trajan who institutionalized the 1,000 men strong *equites singulares Augusti*.<sup>129</sup>

To summarise. A first natural conclusion that can be drawn from this debate is that there is a major gap between the theory and the practice. The theory, represented by the literary sources, is far from infallibility. In the first place, there is a permanent contradiction between opinions, depending on the writing period, context and the author's training in military science. The practice, on the other hand, comes almost everytime in contradiction with the literary sources, presenting a reality, particular or

<sup>125</sup> Breeze 1977, 1, 5-6.

<sup>126</sup> Davison 1989, 206.

<sup>127</sup> Speidel 1978, 4-6.

<sup>128</sup> Dixon, Southern 1992, 31.

<sup>129</sup> Cf. Speidel 1978, 11-14. *Singulares* are present even in the less military provinces, like Macedonia, Galatia, Thracia. Afterwards, when emperor Justinian reconquered Africa, *praefectus praetorio Africae* receives 50 *singulares*, but their role is now that of clerks and messengers, Speidel 1978, 15.

general, almost impossible to dispute. The epigraphical evidence, even incomplete, do not confirm the military discipline that the literary sources reveal, but they present a fact situation, a real scale view of the Roman military customs. Evidently, the authors state a virtual, desirable situation, but which doesn't confirm the daily life of the soldier and the army.

A first problem that occurs is the availability of the recruits. The draught is made largely by voluntaries, so the recruits can be short at one time, or too many at another. In the 1<sup>st</sup> and 2<sup>nd</sup> Century AD, the total size of the *auxilia* is about 215,000 men (see *supra*).<sup>130</sup> The Imperial army is a contract, limited in time, so the soldiers cannot be retained more than the service period previously agreed upon, and in times of peace, the reaching of a nominal size was not urgent, but in wartime, not only the reaching of these limits, but the augmentation of the unit size, was imperative.

The army meant also a great financial effort for the Roman state. The wage for an average legionary between Augustus and Domitian is 225 *denarii*. In the 2<sup>nd</sup> C, until Septimius Severus' reign, the total size of the army should have been 415,000 men, which would have spent about 94 million *denarii* yearly. According to the literary sources in Vespasian's reign, the military budget was one third of the total state budget. Cassius Dio (*Historia Romana* 78.63.2) reports that after the raise of the military wages by emperor Caracalla, the military budget rose by over 70 million *denarii*,<sup>131</sup> therefore the economic effort was considerable.

The total size of the Roman army, in various periods of time, can be only approximate. For these totals, a legion of 6,000 men was used, and a *numerus* of 200. In the 2<sup>nd</sup> C, the whole army is thought to be 500,000 men by Rostovtzeff, during Marcus Aurelius' reign, 420,000 men by Cheesman, during Septimius Severus' reign, 400,000 by Birley or 300,000 by Jones. In the 3<sup>rd</sup> C, the situation is different, Aurelian having 400,000 men by Stein, Diocletian 600,000 men by Jones or even 1,000,000 by Rostovtzeff. Constantin leads an army of 500,000 by Segrè or 600,000 by Seeck. And finally, for the 5<sup>th</sup> C, there are two different opinions, 737,500 men by Kromayer, and only 200,000 by Segrè.<sup>132</sup>

## Dacia

How much of this army has been garrisoned in Dacia? What is the percentage considering the role of Dacia and what is the impact on the Imperial army? However, without detailed demographic evidence it is hard to evaluate the number of soldiers in the Dacian society and the influence on the provincial economy.<sup>133</sup>

Nevertheless, it is important to quantify in some way the Roman army of a province, as it is Dacia, to understand the impact of the army on the provincial society and eventually the required efforts in maintaining the army in the new province at full strength. If we reduce the amount of money (see *supra*) at the provincial level it is to the economy of Dacia it would be necessary *c.* 226,5 *denarii* per *annum* for one soldier, therefore almost 7,000,000 *denarii* annually for all soldiers of Dacia. However, it is hard to assess the impact of this sum on the economy of Dacia. For the impact on the provincial society it is also important to approximate even the number of recruits required to keep the army at full strength, yet every issue is fraught with problems.<sup>134</sup> Furthermore complicate is the drafting matter. However, predominantly the enrollment has been completed from the local reserve of provincials of local origin or not, yet clearly the recruiting from the homeland would have been still a practice at least during 2<sup>nd</sup> C.<sup>135</sup> Even if the subjectivism is significant it would be interesting to approximate the soldiers number of a province. The

<sup>130</sup> For example, in a certain period of time, during Hadrian, Holder has proposed 217,624 soldiers excluding centurions and decurions, however, with a smaller number in reality, Holder 2003, 120.

<sup>131</sup> See MacMullen 1984, 571-572.

<sup>132</sup> *Apud* MacMullen 1980, 451-452. However, after Diocletian the army had different value.

<sup>133</sup> To our knowledge, there is still no detailed study concerning the provincial population or economy of Dacia, therefore there is not any significant base for approximation.

<sup>134</sup> This is depending mainly on two conditions: the state of peace or war.

<sup>135</sup> Of course the best examples are the Eastern units, especially the *numeri*, generally dislocated in Dacia after Trajan's reign. Here with some exceptions (a Thracian soldier, IDR III 5, 559) the necessary of soldiers, local or not, has been completed with Orientals (for the names see IDR III 1, 134, 152, 154, 155, 166, 167). A Briton is also *Ivonercus expediti de coh. I Ulpia Brittonum* (military diploma of AD 154, IDR I 17 = RMD 47) recruited in about AD 130 in a unit garrisoned in Dacia far away from home or even after the dislocation of *ala Asturum* north bank of the Danube the recruiting from *natione Bessus* continued as there is a soldier enrolled early in the 3rd Century (see IDRE II 353). On how are the provinces affected by the recruiting necessities see in short Haynes 2000, *passim*.

case of Dacia would be also provocative as there is a concentration of troops, however, the variation could be major thus representational value it is inconsequential. The social impact, including the case of veterans, would be likewise hard to follow because our knowledge regarding the demographic structure of Dacia is insufficient.

Consequently, this would be a very simple outline because for this we have very few data and officially the only relevant consist of military diploma, without being able to establish the exact number of the soldiers only on this basis. The difficulty of generalisation becomes real when approximate figures for the number of men serving in the *alae* and *cohortes*.

Quite a number of soldiers would have been necessary to garrison the Dacian forts for defending the *limes*. Therefore, a substantial effort emerged, considering that there weren't any new unit created under Trajan to face the Dacian wars and to garrison the new province.

The conquest army early in the 2<sup>nd</sup> Century has been approximated to maximum 90,000 soldiers, that is a percentage of c. 22% of the whole Roman military force.<sup>136</sup> There were involved 6 legions, 30 Praetorian cohorts, 14 *alae*, 34 *cohortes*, plus some expeditionary military corps from Orient, the *classici Misenates*, *Ravennates*, *Flavia Moesica* or *Flavia Pannonica*, and ethnical forces of *Palmyreni*, *Daci*, *Brittones*, *Mauri*, *Pannoni*, *Germanici*, *Suri* or *symmachiarii Astures* and also three troops of *pedites singulares*. 26 auxiliaries units were dislocated from Moesia Superior, 10 from Moesia Inferior, 6 from Pannonia, 3 units of Syria and another three from other provinces.

How much of the conquering army will be established in Dacia? To approximate the number of the soldier we can rely on the five military diplomas issued for the army of Dacia during Trajan's reign. This are dated in AD 109; 110 and 114.

#### Diplomas:

14.10.109 (AE 1990, 860 = RMD 148 = IDRE II 307)	3 <i>alae</i> / 16 <i>cohortes</i>
17.02.110 (CIL XVI 57 = IDR I 2)	2 <i>alae</i> / 10 <i>cohortes</i>
02.07.110 (CIL XVI 163 = IDR I 3)	4 <i>alae</i> / 18 <i>cohortes</i>
03/04.05.114 (RMD 226)	2 <i>alae</i> / 10 <i>cohortes</i>

By AD 109 there was a large number of military men in the province as we can observe in the first diploma recording the auxiliary troops of Dacia (AE 1990, 860 = RMD 148 = IDRE II 307). Accordingly, there are clear signs that a highly developed military technology was already firmly in place.

Under Trajan except legionaries the majority of auxiliary troops of Dacia are those mentioned in diplomas.<sup>137</sup> *Ala I civium Romanorum*, *ala I Britannica civium Romanorum* (at least until AD 114), *ala I Claudia*, *ala I Augusta Ituraeorum* (at least until AD 114), *ala I Pannoniorum*, *ala II Pannoniorum*

The cohorts are: *coh. I Alpinorum (quingenaria equitata)*, *coh. I Britannica civium Romanorum (milliaria equitata)*, *coh. I Brittonum (milliaria equitata)*, *coh. II Britannorum (milliaria equitata)*, *coh. III Campestris (milliaria)*, *coh. II Flavia Commagenorum (quingenaria? equitata)*, *coh. I Cretum (quingenaria? equitata)*, *coh. IIII Cypria civium Romanorum (quingenaria)*, *coh. II Gallorum Macedonica (quingenaria)*, *coh. II Gallorum Pannonica (quingenaria equitata)*, *coh. V Gallorum (quingenaria)*, *coh. I Hispanorum p. f. (quingenaria)*, *coh. I Flavia Hispanorum (milliaria)*, *coh. II Hispanorum (quingenaria equitata)*, *coh. I Ituraeorum (milliaria equitata)*, *coh. I Augusta Ituraeorum sagittariorum (quingenaria? equitata)*, *coh. V Lingonum (quingenaria)*, *coh. I Montanorum (quingenaria)*, *coh. I Pannoniorum veterana (quingenaria equitata)*, *coh. VIII Raetorum (quingenaria)*, *coh. I Thracum civium Romanorum (quingenaria)*, *coh. VI Thracum (quingenaria equitata)*, *coh. I Vindelicorum (milliaria equitata)*.

<sup>136</sup> For this calculations see Gostar 1979, *passim* with the whole bibliography on the subject. The number of soldiers has been considered 5,500 for the legion, 500 for *quingenariae* units, 1000 for *milliariae*, 500 for *numeri* with a *praefect* commander and 1,000 for those with a *tribunus* in command.

<sup>137</sup> Holder sustains that maybe another five units recorded later in *Dacia Superior* and *Dacia Porolissensis* are present in *Dacia* during Trajan, as there is no mention of them in another part of the Empire, Holder 2003, 102. The units are: *coh. I Thracum sag.*; *coh. IIII Hispanorum*; *coh. I Ubiorum*; *coh. I Cannanefatium* and *coh. [I vel II] Gallorum Dacia*. Recently *coh. I Ubiorum* is known to have been registered in the diploma of AD 105 of Moesia Inferior (Petrovski 2005), therefore it will be a garrison of the future Dacia Inferior, see also the fragment of 120-130 (Eck, MacDonald, Pangerl 2001). For the army of Dacia in general see recently: Petolescu 2002, *passim*; Piso 2000; Spaul 1994, *passim*; Spaul 2000, *passim*; Tentea, Matei-Popescu 2004, *passim*.



That is 56% of the troops are *equitatae*, comparing with the percentage of 70 % *cohortes equitatae* known in the other provinces of the Empire under Hadrian.<sup>138</sup> However, it is a strong possibility that more cohorts of Dacia to be part-mounted at least during short period of times. So, even if this is a rough average the percentage would not change significantly.

Consequently, during Trajan *exercitus Daciae* is made virtually by: 6 *alae quingenariae* (3,072 soldiers); 23 cohorts (9 *quingenariae* with 4,320 soldiers; 8 *quingenariae equitatae* of 4,800 soldiers; 2 *milliariae* of 1,600 soldiers and 4 *milliariae equitatae* with 4,160 soldiers). That is 17,952 soldiers in other words 8.3% of the whole auxiliary army of the Empire of c. 215,000 (see *supra*).

To this we should add about 12,000 legionaries of *leg. IIII Flavia* and *leg. XIII Gemina*, without calculate here the vexillation of *leg. I Adiutrix* present in Dacia until AD 113.<sup>139</sup>

Thus, the total of the soldiers present in Dacia under Trajan is of almost 30,000, that is a little bit over 7 % of the grand total of the Roman army (415,000) (see *supra*).

Except for *coh. I Alpinorum* attested for the first time in diploma of AD 114, the other auxiliary troops are mentioned in diplomas of AD 109 and 110. To these units we can add the groups of *singulares*, though normally this troops were raised of auxiliaries from other units (see *supra*).<sup>140</sup>

As the territory of Dacia it is large enough, with an area which incorporate the future Dacia Superior and Dacia Porolissensis organised as such early in Hadrian's reign, it would be hard to assign for each troop mentioned on the military diplomas issued under Trajan its garrisoning fort. There are c. 35 forts recorded also in Trajan's reign. So, the difference comparing the number of forts with those of the troops (29-30) is not so great. However, some of the forts would not have been in existence under Trajan and/or there were more military units in the province. Probably, both options are correct. Among the forts there are some, e.g. Romita<sup>141</sup>, with no discovery characteristic before Hadrian, yet the forts were dated under Trajan. On the other hand, some troops could have been in Dacia during Trajan (possibly four of the five mentioned by Holder, see *supra*). Another one, *ala I Tungrorum Frontoniana*, the garrison of the fort at Ilișua (Dacia Porolissensis) early in Hadrian's reign, might have had some activities in the South-West of Dacia, as it is mentioned on a bronze plaque discovered at the fort of Pojejena.<sup>142</sup> In the same time a *signifer* of the *ala* set up an altar for his wife at Vrșac in the same area.<sup>143</sup> This could have happened between AD 114,<sup>144</sup> the last diploma of Pannonia Inferior where it is recorded and beginning of Hadrian's reign when it will be dislocated to Ilișua. As some *alae* probably left Dacia around AD 114 it is possible that the *ala Tungrorum* to be a substitute already during Trajan's reign.<sup>145</sup>

The fort of garrison is designated during Trajan in reference to only 15 cohorts and an *ala*. However, none of these units are attested by inscriptions during Trajan reign, but majority by tile-stamps, therefore, the garrison of the forts it is rather obscure.<sup>146</sup>

The military force of other provinces of the Roman empire early in the 2<sup>nd</sup> Century was in some cases comparable with the one of Dacia. Early in the 2<sup>nd</sup> Century first place has been occupied by Britannia with three legions, and at least 40 cohorts and 12 *alae*.<sup>147</sup> That is to say, over 15,000 legionaries and 30,000 auxiliaries were in place. Similar to Dacia it was the army of Germania Inferior with almost the same number of auxiliaries late in the 1<sup>st</sup> C, but lessen early in Hadrian's reign, however with a total number of soldier greater than in Dacia since soldiers of the five legions were present in the province as

<sup>138</sup> Cf. Holder 2003, 119.

<sup>139</sup> For the history of the legions in Dacia, see Piso 2000.

<sup>140</sup> See Speidel 1978, 6-11. However, the fort of Cigmău (Dacia) close to the fortress of *leg XIII Gemina* has *principia*, yet it was garrisoned by *pedites singulares Britannici*, already mentioned on the military diplomas of AD 110, transformed later in a *numerus*, thus an individual troop.

<sup>141</sup> After all, most of the Dacian forts' interior is not excavated therefore it would be hard to prove or disprove their existence under Trajan.

<sup>142</sup> Petolescu 1995, 48, n. 205.

<sup>143</sup> IDR III 1, 107.

<sup>144</sup> RMD 87.

<sup>145</sup> For the 'knock-on effect' or troops moved to a province to replace units from that province which had been moved elsewhere, see Knight 1991, 199.

<sup>146</sup> Concerning the relativity of military tile-stamps as a proof for garrisoning some forts of Dacia see Marcu 2004a.

<sup>147</sup> Holder 1982, *passim*.

well.<sup>148</sup> Likewise, in Moesia Inferior at least before the Dacian wars, there was also a concentration of troop very similar with the future army of Dacia, that is c. 9 *alae* and 20 cohorts together with the legionaries of two legions.<sup>149</sup> Of these, 3 *alae* and 8 cohorts will be garrisoned on the North bank of the Danube the area of the future Dacia Inferior. Besides, other provinces on the northern border of the Empire had also a large number of soldiers in garrison, but with a smaller number of auxiliaries, yet supplemented with legionaries.<sup>150</sup> Nevertheless, the multitude of soldiers is related at first with the character of the populations beyond the frontier and their legal status in relation with the Romans and with the extent of the area occupied by a certain province. Therefore, understanding regional variation becomes crucial to understanding also the impact of maintaining the *auxilia* on provincial societies as some scholars already noticed.<sup>151</sup> To nearly 18,000 auxiliaries of Trajan's Dacia the result would have been of almost 540 veterans annually and needed c. 880 recruits *per annum*.<sup>152</sup>

Definitely, in Dacia was under Trajan a concentration of troops. There are quite a number of auxiliary troops and the number has been supplemented by some legionaries. However, the soldiers number would not decrease after Trajan, quite the opposite. In general, a small number of military units will be dislocated from the army of Dacia during 2nd Century to other provinces.<sup>153</sup> The soldiers number has been increased by Hadrian as a result of provincial reorganisation and also including recruits from Palmyra in the ethnical troops. The territory placed North bank of the Danube was transferred from Moesia to Dacia and a new province has been created: *Dacia Inferior*. Therefore, some units known as the garrison of Moesia Inferior will create *exercitus Daciae Inferioris*.<sup>154</sup>

The peace conditions under Trajan do not have to be overestimated. With the exception of legionaries almost no auxiliary unit was dislocated from Dacia to other province. This does not necessarily mean that the army was at full strength. Apparently, the five military diploma issued for the units of Dacia during Trajan imply that quite a number of soldiers were discharged. How much of the drafts needed to keep the troops at full strength is hard to say. If this has been possible in a new created province is even more difficult to assess, but the need it is clear indeed at least for the huge building program. For the history of Dacia it would have been quite interesting to find out if the task-force used during Trajan remained at full strenght after many soldier were discharged. Archaeologically there is almost no indication that the forts during Trajan were not fully occupied, as generally the excavators were not concerned to investigate the first phase of the settlements in detail. This is the reason why every fort known on the former territory of Dacia is recorded as 'built under Trajan', regardless that in some of them there is no sign of occupation during Trajan.<sup>155</sup> Because of these difficulties the relation between the forts and their garrison it is still underestimated.<sup>156</sup>

<sup>148</sup> Alföldy 1968, *passim*; Haalebos 2000.

<sup>149</sup> For auxiliary troops see recently Matei-Popescu 2004. Already in the diploma of AD 105 (Petrovski 2005) were recorded only 6 *alae* and 14 cohorts and during Marcus Aurelius 5 *alae* and 9 cohorts, Matei-Popescu 2004, 237.

<sup>150</sup> Pannonia Superior for instance has early in the 2nd Century at one time two legions, and then three, though the number of auxiliaries it is not so great. Moreover, Syria Palaestina, Judaea and Arabia with only c. 5 *alae* and 14 cohorts had up to five legions at one time in the first half of 2nd Century.

<sup>151</sup> See Haynes 2000, 63.

<sup>152</sup> The calculations were made taking an average of the calculations made by Alston 1995, 46. Accordingly, to 5,000 soldiers there will be 152 veterans and 247 recruits.

<sup>153</sup> An exception is *coh. III Cypria* transferred after Trajan's reign to the Bosphorus.

<sup>154</sup> *Ala I Cl. Gallorum Capitoniana, ala I Asturum, ala I Hispanorum, coh. I Flavia Commagenorum, coh. I Augusta Nerviana Pacensis Brittonum, coh. II Gallorum, coh. I Bracaraugustanorum, coh. I Hispanorum veterana, coh. II Fl. Bessorum, coh. III Gallorum, coh. I Tyrionum sag. and coh. Ubiorum* attested in Dacia's Inferior diplomas of 120-130 (AMN 38/1, no. 3); 129 (CIL xvi 75 = IDR I 10); 140 (IDR I 13 = RMD 39) and 146 (RMD 269) were during Trajan the garrisons of Moesia Inferior. An exception is *coh. II Fl. Numidarum*, which stationed in the province of Thracia before deployment to Dacia Inferior early in Hadrian's reign.

<sup>155</sup> All forts in Dacia were included in this category mainly because there has been identified a wooden construction phase of the rampart, sometime without any numismatic indicator. However, it is known that it would be very hard to believe the existence of a military site with no coin issued under Trajan or in the first centuries considering the *donativa* to the soldiers after the Dacian wars.

<sup>156</sup> Lately, some Romanian scholars tried to evaluate the number of soldiers inside a certain fort, but usually with insufficient archaeological information, see Gudea 1997, 52 ff; Isac 1997, 29-32.

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