SCHOLAE IN THE FORTS OF DACIA

FELIX MARCU

The term schola transliterated from the Greek word $\xi\xi\delta\delta\rho\alpha$ is the equivalent of the designation exedra as a meeting place provided with benches where people is assembling to attend the conversations. It is maybe significant to remind the Vitruvius' words that: exhedrae spatiosae, habentes sedes, in quibus philosophi, rhetores reliquique, qui studiis delectantur, sedentes disputare possint (Vitruvius, De architectura 11.2)¹. To the Romans the word it will not be used exclusively for open spaces inside of a house, baths or gymnasium, but generally for meeting places as it is the case of a subdivision attached to the theatre at Pompei (Plut. Brut. 14, 17). Moreover, the term schola will be appropriate to semicircular exedrae with benches built inside gymnasia or the porticoes, as well².

Schola as a building it has no typical plan because of its character placed somewhere between sacred and secular; spectacular and utility; public and privat³. Considering these such a building would be very hard to classify.

Definitely *scholae* in the military environment are not corresponding the civil counterparts⁴, the last being characterized as very complex architectonic characteristics with many divisions surrounding a courtyard⁵.

The simple soldiers would not have had the right to create a *schola*, primarily because they did not have the privilege to constitute themselves in a *collegium*, probably except the legionaries of the first cohort. However, the numerous recording of *Genii* related with different groups of soldiers, even with auxiliaries, demonstrated the existence of many *collegia* of bands of *principales*⁶. The author of the creation of these *collegia* is probably Hadrian⁷, but most of them are known starting with the reign of Septimius Severus⁸.

Hyginus specify clearly that: scholae cohortibus primis, ubi munera legionum dicuntur, in scamno legatorum contra aquilam dari debent⁹. Inside the legionary fortresses latera praetorii is the area where structures with basilica like plan are to be found. This is also the place in the auxiliary forts where there are apsidal constructions. By all means, schola could have been an individual structure, at least regarding the legionaries optiones from Lambaesis have built their own building (?) for meeting (CIL VIII 2554 = ILS 2445). On the other hand, clearly the meeting places of the different groups of collegia were inside the headquarter building, around the first courtyard or inside one of the rooms at the back side of principia¹⁰.

¹ Exedrae from palestrae must have been spacious furnished with benches or chairs for philosopher, rhetors and other studious people meeting to discuss siting confortably. The similar sense in Euripides, Orest., 1449.

² See Gros 1996, 377.

³ Gros 1996, 382. See also RE II, 3, 1921, col. 620 or Carrillo Díaz-Pinés 1995, 61-62.

⁴ Regarding *scholae* in the civil environment, see Carrillo Díaz-Pinés 1995.

⁵ For some examples in the civil ambiance see also Gros 1996, 376-384.

⁶ Domaszewski 1895, 80 ff.

⁷ Cf. Domaszewski 1895, 32.

⁸ See Campbell 1994, 136 ff.

⁹ Hyginus 20. That is, the space for *scholae* of the soldiers in the first cohort should be located close to the *praetorium* (*latera praetorii*) opposite to the legions standards in the area known as 'the deposits of the legion'.

¹⁰ Citing Vegetius and Ammian, R. Fellmann sustain that the meeting places of the *principales* should have been in the interior of the headquarter building, because of the administrative character of this building and of the relation of *principales* with *principia*, see Fellmann 1958, 88-9. See also Petrikovits 1975, 78.

What plan could have had the quarter of a *collegium*? The simplest analogy is the plan of the *aedes* in *principia*. The usual plan of this, especially from late 2nd C is a rectangular room without any division and with an apse opposite to the entrance¹¹. Evocative are the majority of the compartments on the back side of the headquarter building from Lambaesis, with a simple rectangular plan with an apse opposite to the entrance, characterised as *scholae* (Fig. 1.1)¹². As such could have been *schola* of a *collegium*. It should not be surprising that such a meeting hall has a basilica like plan, because the same is in Mactar, where in an inscription of AD 88 is recorded that the young people in town have built with their own money a 'basilica et horrea II'. Accordingly, it has been established that schola iuvenum is a building with a basilica like design¹³.

Generally, at least one of the compartments of a structure like *schola* in the civil environment is apsidal, that is mainly because of its function, considering that it is probably a large *triclinium*. However, the apse is not necessarily the principle. A building at Velia¹⁴ or the rooms on the back side of the *principia* of Weissenburg or on the north side of the headquarter building at Eining are registered as *scholae*, however they are not provided with an apse¹⁵.

The archaeological excavations in the sanctuary of *ordo Augustalium* from Misenum offers an indication on how such a building should look like (Fig. 1.2)¹⁶. As regard Dacia, a similar structure has been investigated in the north-eastern part of the Roman forum of Sarmizegetusa. This is the meeting hall of *collegium fabrum*, recorded in the inscription as *aedes fabrum* (Fig. 1.4)¹⁷. At Misenum has been investigated an entire complex of the type *templum*, but here we are interested only in the central room because this is provided with a podium on the axis on which the statue of the *Genius collegiorum* has been placed¹⁸. Here, in the niches located in the walls of the apse were also set statues of Vespasian and Titus. The ceremonial character of the hall is quite obvious, as in the immediate vicinity there is another apsidal room dedicated specifically to the banquets. In contrast, the Augustals chapel at Sarmizegetusa had a double function: cultic and with the role of *triclinium* or banquet hall.

It is therefore obvious that *scholae* are not only cult places, but also meeting spaces, even if the first reasons to meet are religious in nature. H. v. Petrikovits sustain as a primary characteristic of *scholae* in the military environment that the members of a *collegium* to spend the free time¹⁹. However, in the civil area *scholae* have much more complex plans because they represents the headquarters of some corporations. Therefore, in the same building the all activities related with that association will take place. This is the case for instance regarding the monument of Ucuétis at Alésia, where scholars suppose that it is de residence of some artisans association where metalworking activities have taken place. Or, *scholae* in the auxiliary forts are regulary of only one single room with all functions incorporated: meeting hall, *triclinium* and *aedes*.

A suggestive enough example for this type of structure it is the so called 'Podiensaal' at Pergamon. This is a hall provided with podiums on which members of an association reunion in an convivial atmosphere (Fig. 1.3), and also with niches where were dedicated altars²¹. Consequently, the primary function of the halls should have been for meeting activities especially for banqueting²², more than to dedicate altars as in a sanctuary, even if this last function it is still a commonplace. The terms schola and aedes are not reciprocally excluded each other, because schola as meeting hall could be in the same time, at least theoretically, aedes as well because of the existence in the interior of a small sanctuary. The fact

¹¹ RE II, 3, 1921, col. 618-621. See also Carrillo Díaz-Pinés 1995, 59.

¹² See for instance Petrikovits 1975, 78.

¹³ Carrillo Díaz-Pinés 1995, 50-52, Fig. 7A.

¹⁴ Also in a civil area in the case of the complex *Aula dei mensores* at Ostia there is no apsidal room, Carrillo Díaz-Pinés 1995, 36, Fig. 4A.

¹⁵ Gros 1996, Fig. 432; Grönke 1997, 77, Taf. 17, 1; Gschwind 2004, 66 ff, Abb. 24.

¹⁶ See Diaconescu 2005, 330-2.

¹⁷ Étienne, Piso, Diaconescu 2004, 113-5, Ep. 10, Pl. XXXVI.

¹⁸ Diaconescu 2005, 332.

¹⁹ Petrikovits 1975, 78, B. 16.

²⁰ See Carrillo Díaz-Pinés 1995, 61.

²¹ Étienne, Piso, Diaconescu 2004, 115; Diaconescu 2005, 339.

²² For the analogy see the case of *fabri* from Sarmizegetusa, Diaconescu 2005, 340.

that the aedes from the north-eatern corner of the forum at Sarmizegetusa is the part of a schola (that is the whole structure of the north-east corner) it should be clear, as here there is also a bench (accubitus) and a kitchen (culina)²³. In other places e.g. Misenum aedes of the Genius is a separate structure, but part of a building complex. However, inside the forts the function of the sanctuary inside a schola it is different as the only real sacred and consecrated place in the fort is aedes principiorum²⁴.

In more than one legionary fortress they were excavated buildings clearly with the role of meeting halls for different *collegia*, designated accordingly as *scholae*. However, this kind of structures apparently are lacking inside the auxiliary forts. There are very few instances where buildings with an unclear characteristic were identified as such. Therefore, the existence of the *scholae* inside forts was only supposed and still the clear evidence is missing. Inside some forts of Britannia and Germania quarters of *collegia* were nominated some certain large heated rooms, yet there is not any epigraphical indication for this. To my knowledge, in Britannia the only example is known inside the fort at Caernarvon archaeologically excavated early in the XXth C where one of the compartments of the headquarter building of 6.90 by 3.90 m has an apse opposite to the entrance²⁵. In similar positions there are rooms in the forts of Butzbach and Weissenburg (Fig. 2.1)²⁶.

Outside principia, but in the immediate vicintiy, three structures with an apsidal plan were identified in the fortress at Corbridge²⁷. These were defined scholae collegiorum, characteristic according to I.A. Richmond after the reforms of Septimius Severus. In auxiliary forts such small buildings located in the neighborhood of principia are found in the forts from Eining²⁸, Newcastle (?)²⁹, Aalen (?) or Heidenheim (?) (Figs. 2.2, 2.3, 2.4)³⁰. In the case of Eining, occupied until Hadrian's reign, including two of the rectangular structures attached to the north side of the principia are considered quarters of particular collegia. At Newcastle, because of the position and because of the existence of a heating system, a building back to the principia it was considered a probable schola. Interesting are also the constructions located in latera praetorii dextra of the forts at Aalen and Heidenheim. In the first case there was identified a rectangular construction of 27.30 by 12.00 m, perpendicular on the middle of the headquarter building one side³¹. This has eight different compartments of different dimensions, one of them provided with hypocaust system. It is characterized as 'Wohngebäude' without other arguments, but the position and the existence of the heating system could also indicate a schola. The number of the subdivisions it is of course in this case not normal as this kind of building is a meeting place, but one of the compartments is larger and could have had this function. Plus, the plans of the scholae in the civil environment certify the existence of some very complex plans and many rooms with different functions. In the interior have been discovered few tile stamps of ala II Flavia milliaria. The unit will be dislocated in AD 150 to Heidenheim. Therefore, it is not surprising to see also in this fort, in a similar position, of a structure with a similar plan with the building of Aalen, the former garrison of the ala³². However, were excavated only three sides, but there are signs for using of a hypocaust system.

The position of the buildings in the internal planning of the forts is not therefore a fixed one, however in *latera praetorii* in many instances it is not aligned to the *principia*, but it is even perpendicular on its length. For that reason when someone is trying to identify such buildings the 'unorthodox' position and the existence of the heating system could be indicative. Moreover, for the identification of this building ideally the provision with an apse will be another important argument, but this is not always a condition (see *supra*).

²³ Étienne, Piso, Diaconescu 2004, 114-5.

²⁴ For this see Marcu 2007, passim.

²⁵ Wheeler 1923, fig. 11-14.

²⁶ Wheeler 1923, 49-53, 64, fig. 11-14; Grönke 1997, 77, Taf. 17, 1.

²⁷ Two of these buildings were part of the initial plan of the internal planning organization, the third one being built during the 4th C, see Richmond 1943, 133.

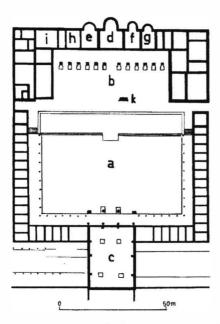
²⁸ Gschwind 2004, 66-72, Abb. 24.

²⁹ Snape, Bidwell 2002, 268-9, fig. 4, 5.

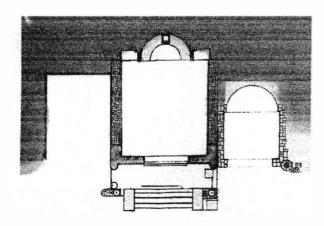
³⁰ See Filtzinger, Planck, Cämmerer 1976, Abb. 48, Abb.117.

³¹ See Filtzinger, Planck, Cämmerer 1976, 201, Abb. 48.

³² Filtzinger, Planck, Cämmerer 1976, 292, Abb. 117



1. Principia at Lambaesis (after Fellmann 1958, Abb. 57)



2. Aedes Augustalium at Misenum (after Diaconescu 2005, Fig. 178)



3. "Podiensaal" - Pergamon

4. Aedes fabrum at Sarmizegetusa (after Étienne, Piso, Diaconescu 2004, 113-5, Ep. 10, Pl. XXXVI)

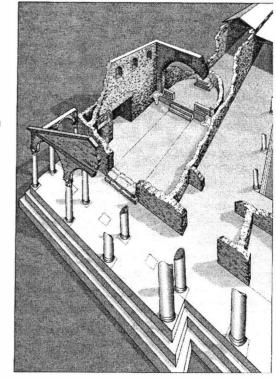
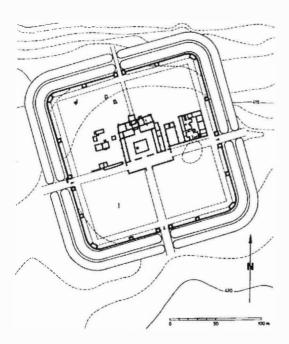
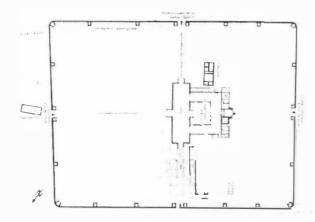


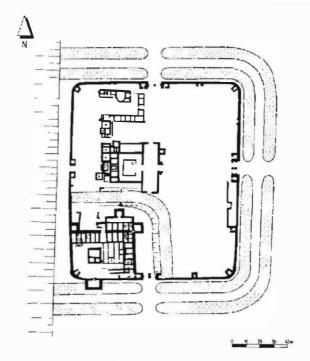
Fig. 1



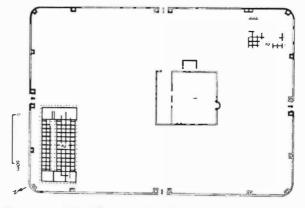
1. Weissenburg (after Grönke 1997, 77, Taf. 17)



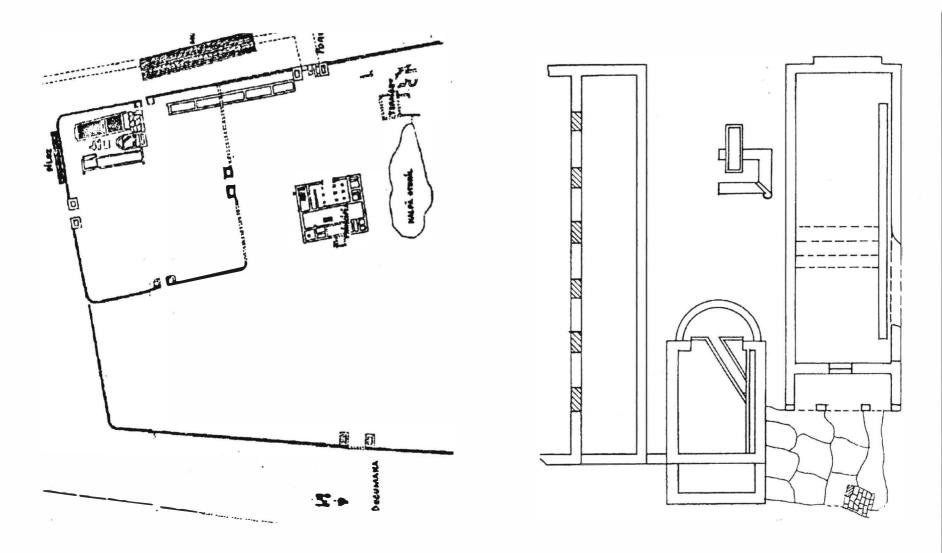
3. Aalen (after Filtzinger, Planck, Cämmerer 1976, Abb. 48)



2. Eining (after Gschwind 2004, Abb. 24)



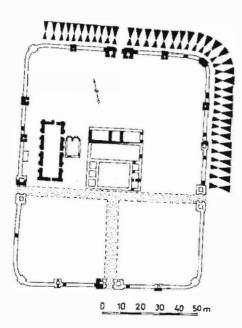
4. Heidenheim (after Filtzinger, Planck, Cämmerer 1976, Abb.117)



1. Tibiscum (after Benea, Bona 1994, Fig. 4)

2. The buildings in the north-estern corner (after Benea, Bona 1994, Fig. 4)

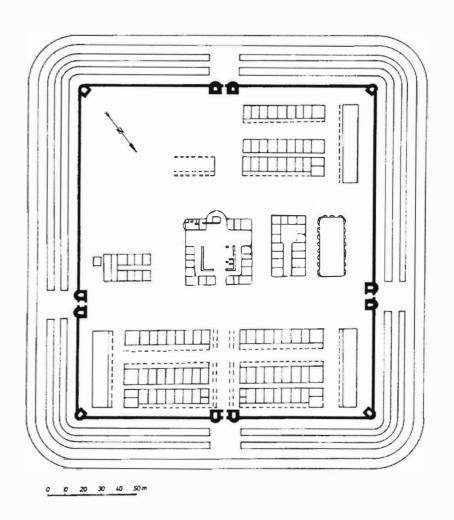
Fig. 3.



1. Câmpulung-Jidava (after Gudea 1997, no. 62)



[Optim?] sum collegium dupl-[ari]or(um). Iul(ius) Marinus posuit.



2. IDR II 505

3. Slăveni (after Gudea 1997, nr. 69)

Fig. 4.

In the military medium of Dacia are attested only Genii of some troops or of a building at: Ampelum, Fortunae Reduci et Genio N(umeri), Aur(elius) Redux praef(ectus) N(umeri) M(aurorum) H(---) (IDR III/1); Micia, Minervae Aug(ustae) et Gen(i)o coh(ortis) II Fl(aviae) Com(m)agen(orum) (IDR III/3, 111-2); Tibiscum, Genio N(umeri) Pa[l(myrenorum)] Tib(iscensium) (IDR III/1, 136); Apulum, Genio praetorii (IDR III/5, 84) and Bologa, where on the bottom of a vessel is engraved GENIV[o]MV³³. For Dacia, the existence of organized groups of principales or immunes is proved by the inscription of Potaissa where a schola beneficiariorum is recorded (CIL III 876)³⁴ and also by the inscription of Ilişua where a schola decurionum is registred (CIL III 7626).

The existence of *scholae* is possible also in the forts of Porolissum and Tibiscum. Extremely interesting are the buildings characterized as *scholae* of the Palmyrenes located in the corner of north-east in the fort at Tibiscum (**Fig. 3**)³⁵. There are structures grouped around of an open space with a function hard to establish, because the access in the buildings is made from the opposite sides of the open area. However, the smaller rectangular apsidal building has the similar plan with other *scholae*³⁶.

The existence at Ilişua of a schola of decurions is clearly proved by the mentioned inscription. This is the evidence that the temple of Publius Aelius Paulinus it is outside the forts³⁷, but the schola should have been somewhere in the interior of the fortification. Because it is used the term schola it should be an individual building and not a room in the principia, since, to my knowledge, there is no inscription where the rooms in the principia to be named scholae³⁸.

Inside the fort at Câmpulung-Jidava between horreum and principia a building of 10.00 by 8.00 with hypocaust system was unearthed (Fig. 4.1). It is a rectangular construction with two adjacent apses on the north side opposite to the entrance, a plan unparalleled in a Roman auxiliary fort. Theoretically, such a structure with heating system and apsis indicate naturally a bath. So, there is normal that the excavators have considered the building as such. However, the construction technic, stones bounded with earth, would indicate another utility. Also the dimensions and position between horreum and principia it is another argument against the functionality as thermae. Thus, except rooms of principia another building inside the forts which has an apsidal plan should be a schola collegiorum. As we have seen the position of these scholae is in latera praetorii in the vicinity of principia and they have a heating system, therefore, the most probable function of the building at Jidava is the one of a schola. However, it is still hard to explain the function of the two adjacent apses. Perhaps there were two separate groups meeting in the same building, but with a separate shrine for each Genius of the two collegia. Or, why not, there could have been the residence of an association created with the soldiers of two different units, as in the case of scola speculatorum in the same time of leg. I et II Adiutricium... (CIL III 3524) (see infra)³⁹.

In Dacia the only place in a auxiliary fort where we have the specific attestation of a *collegium* of soldiers is the fort at Slăveni (Fig. 4.3), where a reused decorated marble monument from the headquarter building records that Iulius Marinus member of a *collegium duplariorum* set up the monument (IDR II 505)⁴⁰ (Fig. 4.2). Unfortunately, there is no building in the fort at Slăveni designated as *schola* if there was any separate such building. M. Macrea has supposed, maybe correctly, that because the discovery place the quarter of this band would have been the *principia*⁴¹. But for the moment the evidence does not amount to proof this. In the apparent tipical internal organization of the Roman fort at Slăveni the only

³³ Gudea 1972, 137, fig. 16,4b.

³⁴ The meeting place of the members could have been somwhere on the western side, cf. Bărbulescu 1987, 163. According to the analogies, especially from Lambaesis, M. Bărbulescu assign to different divisions of the *principia* of Potaissa the role of *scholae* of different *collegia*, see Bărbulescu 1987, 164.

³⁵ For details see Marcu 2007, passim.

³⁶ See Marcu 2007, passim.

³⁷ Cf. Marcu 2007, passim.

³⁸ Where the term appear as in CIL X 3344; III 10997; III 7626; V 5272; III 3524 the word schola is used for a substitute to collegium and not to designate a specific structure.

³⁹ The fort at Câmpulung-Jidava was garrisoned probably by *coh. I Flavia Commagenorum*, see Petolescu 2002, 95-97. There were also found tile stamps of *leg. XI Claudia*, therefore detachments of this legion could have been, at least for short period of time, garrisoning this fort.

⁴⁰ See also Tudor 1978, 345, 363.

⁴¹ Macrea 1969, 205. Initially D. Tudor has located the discovery place of the piece in one of freee rooms flanking the first courtyard, see Tudor 1963, 243.

structure of those from *latera praetorii* with another orientation comparing with the other constructions is the one with a central corridor with compartments on both sides and with another two large adjacent subdivisions placed transversely. Buildings in strange positions perpendicular to the lentgh of *principia*, with more than one division were found in the *alae* forts of Aalen and Heidenheim. The same function as here could have had also the structures at Slăveni, which is maybe the residence of a corporation.

Definitely, as a norm, the existence of *scholae* where were not identified individual buildings with such a function should not be excluded, because this role would have had many rooms from/or attached to the *principia*, as it was the case at Lambaesis. However, their plan would not have been so evident. Apparently, such function could have had any of the heated rooms of the fort at Buciumi, as in Weissenburg or Eining⁴². The same in the case of the compartments on the back side of the *principia* at Râşnov, especially the one also with an apse located nearby the *aedes principiorum*. Similar to the buildings of Eining⁴³, Newcastle (?)⁴⁴, Aalen (?) or Heidenheim (?)⁴⁵, also at Râşnov there is another small construction with an initial role of cistern but later of a *schola* (Fig. 5.1). Plus, some of the annexes attached at one time to the headquarter building, as it is the case at Eining, could have had very probable function of *schola*. This would have been also the case at Porolissum where beyond the rooms at the back side of the *principia*, in the southern corner, were attached two rooms one of which with an apse (Fig. 5.2)⁴⁶. This could have been also the case of the rectangular rooms attached to the north-west side of the same building in the same fort.

The official charcater of the *scholae* is confirmed also by the fact that together with the deities here could have been and were worshiped the emperors, as we can find out from an inscription discovered at Lambaesis (CIL VIII 2554). Nevertheless, this is the case with many epigraphs⁴⁷ where the emperor's name was given in the dative case; consequently these were the gods of that *scholae* simultaneously with *dii conservatores*⁴⁸.

The association in a single collegium of the principales or immunes of two or more troops could have been a reality, even if those troops were not the garrison of the same fortress or fort. This is for instance the case of CIL III 3524: scola speculatorum / legionum I et II Adiutricium.... Certainly, as it is about speculatores this could have been an exception, but presumably the soldiers of two different units garrisoning the same fortification could have compose one collegium.

Archaeological there is not any confirmation of the chronology of this kind of building, but the analogies indicate the changings made in the Roman army late in the 2nd C or early in the 3rd C^{49} . However, an earlier date is not excluded as there are possible *scholae* inside the fort at Eining dated at latest during Hadrian. Also under Hadrian's reign starts the creation of military *collegia*. In the civil environment firts *scholae* are characteristics of early and mid 2nd C^{50} .

It would be very hard to establish a particular planimetry for the military scholae, only that comparing with the complex of civil scholae there is possible to circumscribe at least two attributes: the location in the internal planning of the fort, and the simple plan generally of only one division with hypocaust system, often with an apse opposite to the entrance with the role of triclinium and aedes.

Considering the character of this constructions, without a precise plan or an established position inside the fortifications it would be very difficult to point a building or the other as *schola*. That is why in the case of Dacia, for instance, the lacking of patterns regarding the position in the fort and also the plan of these structures was the principle to categorize a building or the other as the quarter of a *collegium*. That is, subject to be considered *schola* could be any building which has a peculiar position comparing with the others and in the same time it has the another characteristics for meeting activities.

⁴² Gros 1996, Fig. 432; Grönke 1997, 77, Taf. 17, 1; Gschwind 2004, 66 ff, Abb. 24.

⁴³ Gschwind 2004, 66-72, Abb. 24.

⁴⁴ Snape, Bidwell 2002, 268-9, fig. 4, 5.

⁴⁵ See Filtzinger, Planck, Cämmerer 1976, Abb. 48, Abb. 117.

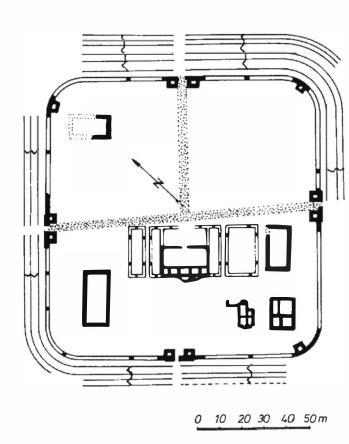
⁴⁶ The second room could have had the role of a *latrina* or kitchen. For the plan see Gudea 1997, no. 25.

⁴⁷ Domaszewski 1895, 89, no. 177, 178, 181, 184, 185.

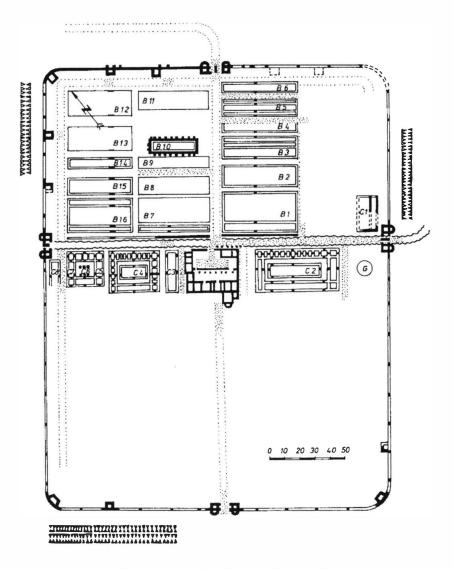
⁴⁸ CIL VIII 2554 - Pro salute Aug(ustorum) optiones scholam suam cum statuis et imaginibus domus [di]vinae, item diis conservatoribus eorum...

⁴⁹ Snape, Bidwell 2002, 268.

⁵⁰ For some examples see Ostia, Carrillo Díaz-Pinés 1995, 30-43.



1. Râşnov (after Gudea 1997, no. 42



2. Porolissum (after Gudea 1997, no. 25)

Fig. 5.

To summarise, scholae are not only the feature of the legionary fortresses, thus are not necessarily related with high status units, since forts as Weissenburg, Butzbach, Heidenheim, Aalen or Släveni are garrisoned by alae. Besides, as regards the auxiliaries not only principales or immunes of alae had the right to organize a collegium. Consequently, the existence of scholae in the forts of Caernarvon, Newcastle, Eining, Câmpulung-Jidava garrisoned by infantry or even Tibiscum where schola belongs to the soldiers of a numerus, could be considered as a standard and there should be more such buildings expecting to be discovered.

BIBLIOGRAPHY

Bărbulescu 1987 - M. Bărbulescu, Din istoria militară a Daciei romane. Legiunea V Macedonica și castrul de la Potaissa, Cluj-Napoca, 1987.

Campbell 1994 - B. Campbell, The Roman Army 31 BC-AD 337, London-New York, 1994.

Carrillo Díaz-Pinés 1995 - J. R. Carrillo Díaz-Pinés, Las sedes de corporaciones en el mundo romano: un problema de identificación arqueológica, AAC 6, 1995, p. 29-77.

Diaconescu 2005 - Al. Diaconescu, Statuaria majoră în Dacia, Cluj-Napoca, 2005.

Domaszewski 1895 - A. von Domaszewski, Die Religion des römischen Heeres, Trier, 1895.

Étienne, Piso, Diaconescu 2004 – R. Étienne, I. Piso, Al. Diaconescu, Les fouilles de forum vetus de Sarmizegetusa. Rapport général, ActaMN 39-40/1, 2002-2003, p. 59-154.

Fellmann 1958 – R. Fellmann, Die Principia des Legionslagers Vindonissa und das Zentralgebäude der römischen Lager und Kastelle, Brugg, 1958.

Filtzinger, Planck, Cämmerer 1976 – Ph. Filtzinger, D. Planck, B. Cämmerer, *Die Römer in Baden-Württemberg*, Stuttgart und Aalen, 1976.

Grönke 1997 – E. Grönke, Das römische Alenkastell Biricianae in Weissenburg i. Bay. Limesforschungen 25, Mainz, 1997.

Gros 1996 - P. Gros, L'architecture romaine. 1. Les monuments publics, Paris, 1996.

Gschwind 2004 – M. Gschwind, Abusina. Das Römische Auxiliarkastell Eining an der Donau vom 1. bis 5. Jahrhundert n. Chr., München, 2004.

Gudea 1972 - N. Gudea, Castrul roman de la Bologa, Apulum 10, 1972, p. 121-150.

Gudea 1997 - N. Gudea, Der dakische limes. Materialen zu seiner geschichte, JRGZ 44, 1997, p. 1-113.

Macrea 1969 – M. Macrea, Viata în Dacia romană, Cluj-Napoca, 1969.

Marcu 2007 - F. Marcu, Cult places in the Roman forts, ActaMN 41, 2007 (in print).

Petolescu 2002 - Petolescu, C.C., Auxilia Daciae, București, 2002, 196 p.

Petrikovits 1975 – H. von Petrikovits, Die Innenbauten römischer Legionslager während der Prinzipatszeit, Düsseldorf-Opladen, 1975.

Snape, Bidwell 2002 – M. Snape, P. Bidwell (ed.), *The Roman Fort at Newcastle upon Tyne*, Archaeologia Aeliana 5th, XXXI, Newcastle u. Tyne, 2002.

Tudor 1963 – D. Tudor, Collegium duplariorum, Latomus 22/2, 240-251.

Tudor 1978 – D. Tudor, Oltenia romană⁴, București, 1978.

Wheeler 1923. - R. E. M., Wheeler, Segontium and the Roman Occupation of Wales, Y Cymrrodor 33, London, 1923.