

## **THE FORTRESSES**

**Ioan D. ȚARCĂ**

PhD student, Department of Geography, University of Oradea, Oradea, Romania,  
E-mail: nelutu\_d\_ioan@yahoo.com

**Remus FOLVARI**

PhD student, Department of Geography, University of Oradea, Oradea, Romania,  
E-mail: remus\_folvary@yahoo.com

**Abstract:** In this article we try to present a different side of geography, the military geography. Military geography role is to study the characteristics of land in military terms and relief the importance of knowledge elements in organizing the fight. Knowledge of the field strengths can make the difference between victory and defeat, and applying appropriate tactics can change the tide of battle. The fortresses had an important role in time, and in this article we try to present those elements specific geographical.

**Key words:** defense and patriotic war; defense system

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## **THE HISTORY OF THE SUBJECT IN FOCUS**

In Antiquity, the system of fortifications was spread across all the Carpathian-Danubian-Pontic space, highly present in the study area. Almost all the settlements in this area were fortified with defensive ditches and large ramparts. As for example the ones in Andrid, Carei, Pir (The Someș Gate), Girișu de Criș, Otomani, Vășad (The Crișurilor Gates) and so on.

The first grouped fortification systems appear after exiting the Someș Gate from the Transilvania Plateau: Dej, Bobilna, Lozna, but also on Mureș Valley. These are generally displayed on the highest peaks using different construction methods, from the simplest one made of mud, protection fosses, to the more complex ones, with palisades, etc. The military fortresses of the Getae-Dacians have produced even since ancient times strong impressions on contemporaries; Herodotus called them „the bravest and justest of the Thracians”<sup>1</sup>.

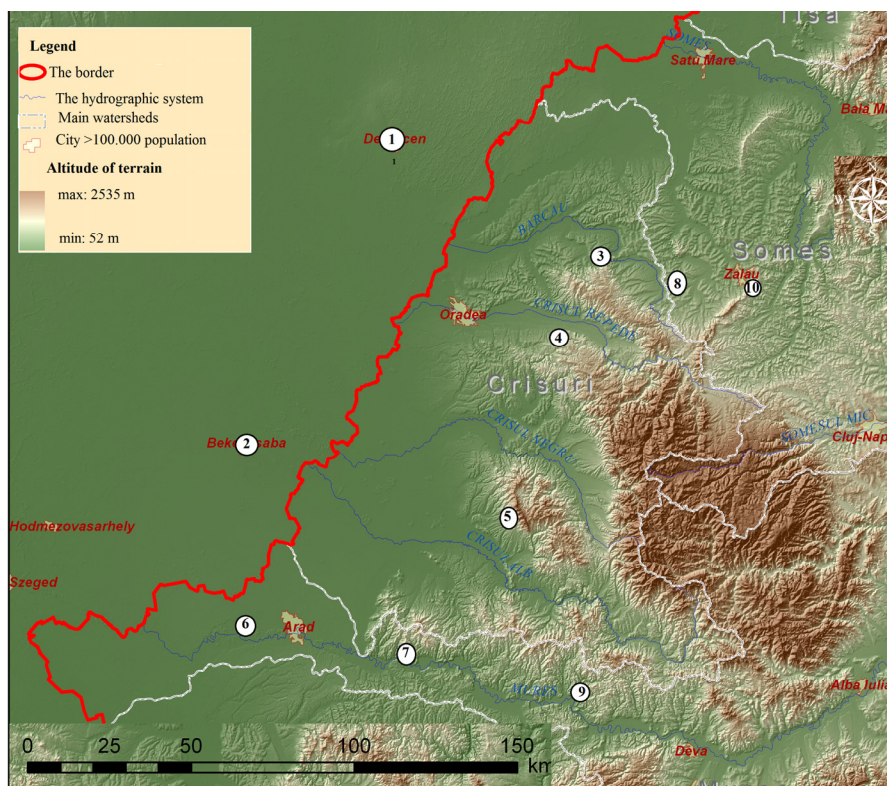
During the reign of Burebista, in Dacia spread the phenomenon of building mud and especially stone fortifications whose clear purpose was to protect its own population from the invasions of the enemies. Likewise, the main responsibility of the king was to organize a permanent army, meant to assure the territorial integrity of the created state and another army formed by men all over the Dacian territory, the entire army having about 200.000 warriors. The main focus was on the construction of fortified settlements and fortresses having as purpose to protect not only the population but also the Dacian centralized state.

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<sup>1</sup> Herodotus, Histories, IV, page 93

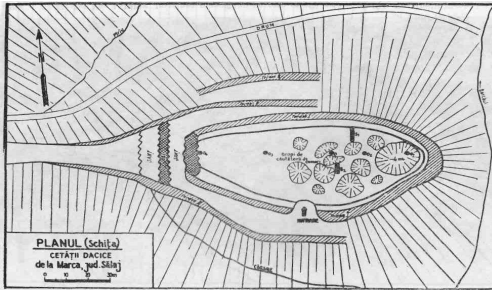
*The fortified settlements* were generally built on a headland above a river or an abyss, being usually defended from three parts of steep slopes, hard to climb. The only access point which connected the settlement with the plain or the surrounding heights was blocked by a rampart of mud or crushed stone and on its crest a wooden palisade. Usually the rampart was surrounded by a defensive fosse without water. They are different from other fortresses in the sense that the settlement was entirely (or at least a part of it) protected and defended by fortification elements, having as main purpose to protect its inhabitants; the military role is relatively general, these being strong points of the Getae-Dacian state, representing the main, local effort in defending the entire population; the fortresses do not include within their defensive elements a great number of dwellings and implicitly a high and stable population; on the other hand, the fortresses could have different roles, sometimes cumulative: either an exclusively military role, either used as abodes for leaders and acropolis (compared to the neighboring civil dwellings) or as shelters when in need.

There are even rarer the settlements completely fortified by such defensive elements (rampart, fosse, palisade). Dacian settlements of the type headland fortified by rampart and fosse can be found at *Tășad* (Bihor county) on „Cetățeaua” height, *Marca* (Sălaj county) on „Cetate” ridge, etc (Dumitrașcu,1993).



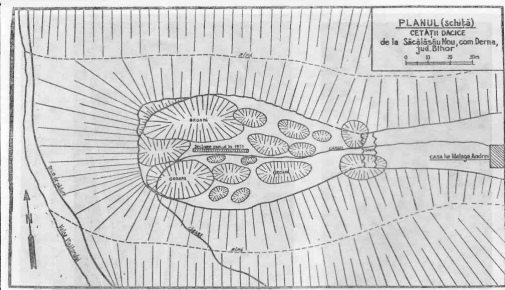
**Figure 1** The Geto-Dacian Fortresses between. 1 î.Ch - 1 d.Ch. centuries.  
În study area is observed: 1 – Debretsen, 2 – Bekescsaba, 3 – Sacalasa Nou, 4 – Tășad,  
5 - Ciurbești (?), 6 – Pecica, 7 – Cadova, 8 – Marca, 9 – Cetățeni, 10 - Tusa (?)

*Fortresses* distinguish themselves through the ingenuity of the construction related to the available materials, land configuration and other factors. There are displayed all over the Getae-Dacian state, the tendency of construction usually being in hilly and mountain regions, on dominant peaks, at the entrance or exit from passes where there were good visibility conditions to great distances, in order to prevent attacks by surprise. The main construction materials were stone, for mixture wood and mud were also used (Gudea, 1972).



**Figure 2** Dacic fortress from Marca, jud Sălaj

Source: Dumitrașcu, 1993, p. 171.



**Figure 3** Dacic fortress from Săcălășău Nou

Source: Dumitrașcu, 1993, p. 173.

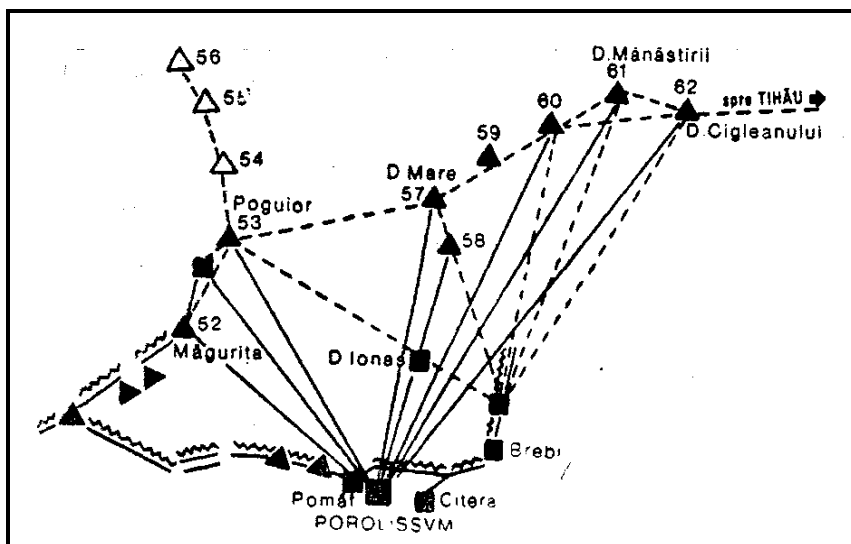
After Dacia was conquered by the Roman Empire, a true in depth, network fortification system was developed in order to observe and control all the activities in the territory in front of the border, all the access possibilities and to quickly inform the entire defensive system, including the fort behind it.

These fortifications were generally built at the highest points on the entire ridge of and the Western part of Apuseni Mountains, protecting like a long, natural barrier. The towers built on the ground maintained the visual connection between them and the first defensive elements of the systems, on one hand, and the entire observation and fort system, on the other hand. A part of these towers had a wide observation radius both inside and outside, being considered observation and signalization points, and the other ones were barely linking points, namely to convey the signals of the observation and signalization points.

According to their display on the land, their established technical characteristics and the distance between them, there is some general information about towers:

- the external shape of the towers is that of a mamelon with a circular base and deep in the middle; the diameter measures between 6-15 m, the height is between 0,50 – 2,00 m; it has in the upper part a narrower or wider circle.
- most of the towers were built on a top or natural high land which allows such a dominant position. This high land can either be an isolated peak on a ridge, a smaller one downhill or even the level oscillation of a ridge.
- the towers were never built exactly on that particular height, being mostly in the inner part, either to protect the construction from strong winds or to directly observe the outside.
- regarding the location but strongly related to the position of the other towers or forts, the towers can be grouped according to the width of the observation radius and visibility in towers with a large observation radius towards the outside, practically unlimited, towers with a medium observation radius, limited to a close area and towers with very limited observation radius.

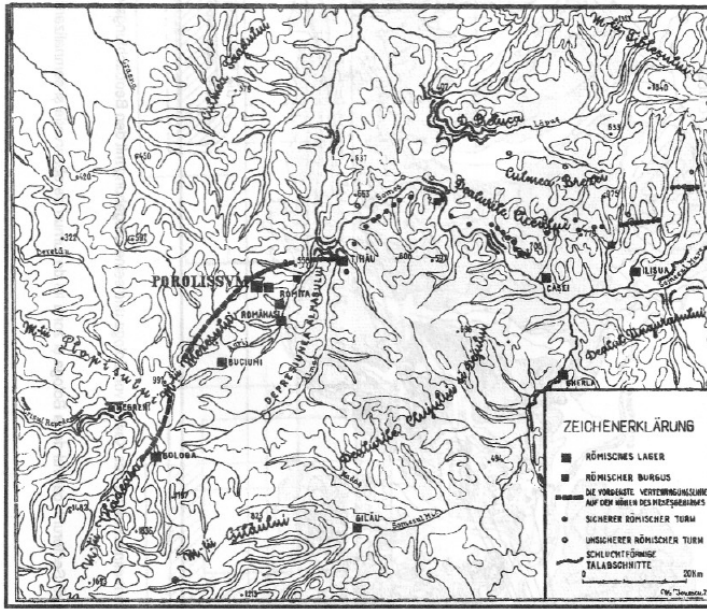
- e. the distance between towers and the other elements of the system varies according to the necessities of the system, their role as well as of relief. Where the land is oscillating the towers are numerous, the linear distance between them being very small. For example, in the area of Porolissum complex, the relief imposed the control and observation over every valley or access point and the distances between towers are small. They vary from 25 – 50 – 100 to 300 – 500 m. Where the ridge is higher, being itself a barrier, towers can be found at bigger distances.
- f. strongly related to the observation radius there are several possibilities to convey signals; therefore we have towers that convey signals to forts only through the towers from their group, having no direct visual contact with the fort or its closest area and there are towers that could convey signals to forts only through other two or even three towers.
- g. the role of the towers is determined by two basic needs: the necessity to observe and convey, to alert through signals the entire system and also the forts. Actually, this role is much more complex: towers had to keep an eye outside on the actions of possible enemies, to control the access points, to guard these points and signalize the forts every type of danger. Their role is, exclusively, to offer protection, therefore there is not surprising that in the more exposed sectors their number grew, or that their size and type would change according to the needs of the location.



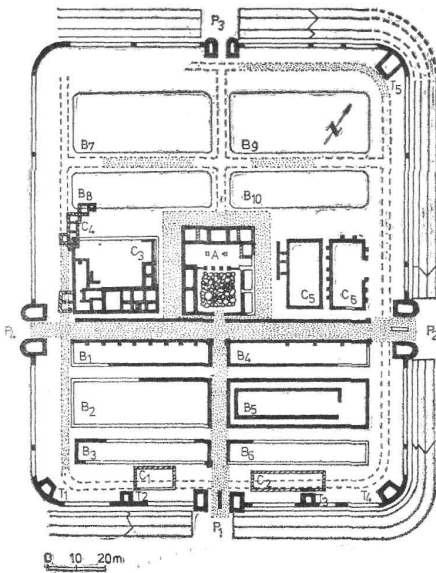
**Figure 4** Porolissum defence system

Source: Gudea, 1986, p. 38.

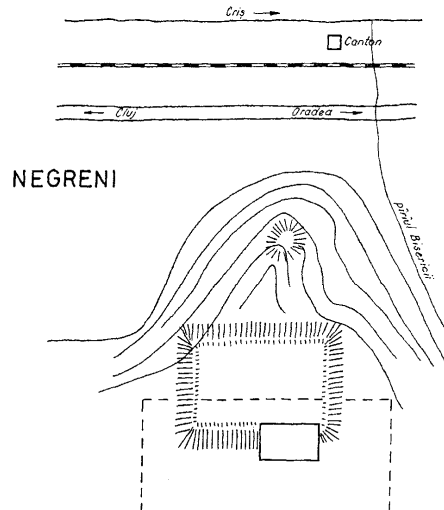
From the point of view of the construction material we could identify towers made of stone and probably wood. The last category is less probable. It is the type of towers which according to the trace left on the ground are typical for a tower but the researches could not identify clear evidences or stone ruins. Even though there are traces of Roman habitation, data regarding the type and system of construction are missing.



**Figure 5** Map with a system of towers in the area of Meseş Mountains, drawn by I. Ferenczi  
 Source: Gudea, 1997, p. 101.



**Figure 6** Roman fortress from Buciumi  
 Source: Gudea, 1972, p. 106.



**Figure 7** Observation post from Negreni  
 Source: Gudea, 1997, p. 104

## MIDDLE AGES

The demographic concentrations and the continual evolution of the Romanian state organization created new, superior resources for the development of fortifications whose execution implied hiring important work force, a certain specialization and a leadership able to make use of their authority in such a wide territory. There were identified a growing number of fortifications.

On the territory of Transilvania and Banat, the Anonymous Chronicle mentions *Biharea* and *Satu Mare* fortresses in Menumorut's voivodeship, Gelu's *cetatea de Ungă Someș* (unmaned) and Glad's fortresses: *Orșova* (Urschia, Ursua), *Horom* (Haram) and *Cuvin*. Without entirely replacing the mud and stone fortresses meant to protect in case of danger entire communities, gradually appeared a series of fortifications of smaller size, destined to a certain number of feudals and their families or being the abodes of the leaders of some social and political structures. In certain situations, such fortresses were considered observation points and border resistance or in some areas of military importance (fords for main rivers, communication nodes, Carpathian passes, etc).

The value of the fortification executions proved itself during the heroic, defensive battles carried out by the voivodeships of Menumorut, Gelu, Glad, Ahtum, Jula when fortresses such as Biharea, Satu Mare, Dăbîca, Arad – Vladimirescu, Morisena (Cenad) resisted for a long time to some heavy sieges.

Judging by the unfolding of some wars, fortresses were used as resistance points during invasions (and also as own force concentration), in order to divide, induce losses and delay the enemy penetration. Meanwhile, the main forces of the Romanian army was fighting at the border, harassing, impeding the enemy to supply itself and preparing the ultimate effort of resistance and aggression.

Between the VIII–XIII centuries, the Romanian people had to face the invasion attempts of the Slavs, Bulgarians, Pechenegs, Uzis and Cumans followed by the Mongol-Tatar invasion.

Facing this situation, Menumorut conceived the in depth, strategic approach, taking advantage of the land, fortification constructions and the submission to battle of all population. The defensive actions were conducted on directions, focusing on the Southern troops in order to outnumber and deny their access to Biharea fortress. Withholding relatively small valued troops combined with violent fight back offensive, the army of the Romanian leader managed to defeat the enemy's intentions to achieve the strategic objective of the Souther troops. Finally, the in depth intervention of the main forces along the course of Crișul Repede withstood the invasion of the Souther troops towards the vital center of the voivodeship.

At the same time, a part of the forces of the Bihor voivodeship were fighting against the Northern enemy troops. Having greater forces, the enemy managed to advance until Sătmarului fortress, though having important losses, where the Romanian leader decided to surprise them in battle. The attack for defending the fortress started in the nearest access areas, to which participated the population of the nearby settlements and, by offensive strikes, the troops of the fortress' army, which had the necessary ammunition for a long distance battle. The defenders fought back with arrows, stone projectiles and flammable material. Their effort materialized in the successive fight back of the enemy's actions, with great losses for the latter part, our army managing to heroically resist the attack for four days.

After the fight from Sătmarului area, followed by a period of recovery, the forces of the north enemy groups, united with the remains of the one from the south, headed for to search

for plunder towards Meseş Gate, where they received a response from the army of the Principality of Transylvania under Gelu's reign.

The attack towards the inner side of the Carpathian Arch marked a new phase of aggression of the warrior tribes. It started under the leadership of Tuhutum who tried to enter the Transylvanian Basin.

The attacks of the warrior tribes against Menumorut's territories were resumed in the years 906-907. Invading powerful forces joined an important detachment of Seklers, and entered the principality. In the face of this new and dangerous invasions, Menumorut decided that some of its forces to be dedicated to the defense of the fortress Bihar, while the other, under the personal leadership of the ruler, to regroup in the mountainous area between Crişul Repede and Barcău, favorable for a lengthy defense to which the entire population able to wear arms could participate. The Bihor soldiers have resisted to the invaders first at Iozăşel river, and then they tenaciously defended themselves inside the fortress Bihar. The heroic resistance of the Romanian soldiers under siege lasted 13 days, during which they produced heavy losses to the invaders.

Since the mid-thirteenth century one would rapidly pass to amplify the fortification works (thickening and elevation of walls, deepening and widening ditches, palisades and towers combine in a complex wooden structures etc) and especially in building strong fortresses of stone.

The fortifications virtually became authentic systems that ensure the security and integrity of the territory over which they exercised their authority. That constructive effort in this field was oriented according to a military unique concept in each state formations is shown, inter alia, the erection of fortresses in strategic points of importance: the direction most likely to break the opponents (Satmar to guard Somes, Soimus and Mures Gate etc) required in passes and crossing points, royal residences and commercial centers (Dabica - Cluj, Alba Iulia, etc). Continuing and developing the art of building fortifications, the political and military leaders, the craftsmen of the VIII-XIII century erected fortresses of great complexity, adapted to the destination, land, building materials available in the area, and to the weather vintage weapons and way of fighting a war those days.

The size of fortifications, some closing a large area (Arad - Vladimirescu Dabica, Pacuiul lui Soare), outlines the garrisons that could amount from a few dozen to several hundred fighters.

Also during this period feudal fortresses appear in the plain and hill areas in order to protect the nobility and also as veritable control points in some conflicts. This way the fortresses from Căpâlnaş appear (dating from the Roman period, attested in the XVth century), Arad - Vladimirescu ( IX – XI centuries), Căpruţa (XVth century), Cladova (Păuliş village- dating from the Dacian period and certified in the Xth century) etc..

In the second half of the XVIth century the fortresses from Carei, Săcuieni and Oradea built, the last fortress being irregularly shaped, slightly oval, located in a flooded, marshy area, fed by the waters of the river Crişul Repede and Petea (stream of hot water), to which the experts of that time have changed the course through underground galleries, so that the water not to freeze around this fortress, reducing its vulnerability, these fortresses were considered "pond fortresses", aimed mainly at stopping the attacks of the western enemy.

Conducting wars of defense that the Romanian principalities were forced to support against the invaders gives the opportunity to draw some conclusions. A first conclusion concerns the predatory expeditions that they had from the beginning of the actions of the warrior tribes. Another conclusion is that these expeditions did not have serious, immediate of future consequences, upon the natives and their socio-political organizations. Finally, the third drawn conclusion is that, those who used the land intelligently, studying its major forms, making the environment an ally, had everything to gain.

## THE PRESENT

Since World War I, following the development of means of fire, improving accuracy and constantly increasing the range of the guns, one gave up to the idea of big fortresses, hard to build, with little defense possibilities, in their place appeared either wooden fortresses (pillboxes) of earth or stone, half buried, with a strictly limited number of staff to defend it with one or more modes of fire (cannons or machine guns) that through their power were able to provoke the enemy important losses and to keep him away (Cucu, 1988). Such fortresses/pillboxes were developed in World War II, defending in general strategic directions or points required for passage (RAAW, 1980).

Although we are part of the modern era, with very good means of protection, and with highly advanced means of impact with a great range and great accuracy, one still focuses on the construction of fortified points, that however have characteristics specific to the fortified places (Cucu, 1993). The modern war that the U.S. military conducted over the past decade, showing practically what I said earlier: it starts with a blitzkrieg, in the air, in order to gain air supremacy, continues with strikes on ground targets, a massive scale ground assault, the last part being to stabilize the area. This can be best seen in Afghanistan, where the Romanian army participates with other NATO belonging armies to stabilize the country and where this strategy has been successfully applied (M. G. C., 1993).



**Figure 8** Afghan and Romanian soldiers in an observation post Qualat area, Zabul province, South west of Afghanistan (2012)

I will do a comparison of the arrangement of the fortified settlements/fortresses from antiquity or the Middle Ages with the last part of Enduring Freedom Operation, in the Romanian-American area of responsibility, where I worked for a period of about 7 months: as well as in the antiquity, the bases of the ISAF forces were deployed according to the

characteristics of the area where they were located, the number of troops serving them, the means of fire at their disposal etc.

Thus, the checkpoints were deployed in the mandatory crossing points, were served by a strictly limited number of troops (usually maximum a platoon), but instead they had striking means (machine guns) placed on certain heights, located in close proximity of them with the often having circular firing possibilities.

The observation and advance posts were placed on dominant heights of the ground, but some of them having modern means of observation. They dominated the heights of mountain chains and were designed to observe passageways, insurgency in the area and possibly to intervene when the situation demanded, in support of coalition military

The largest, called FOB's (Forward Operations Base), as their name implies, were able to support units, depending on their size and to provide all necessary facilities and military establishments. It had facilities from the physiological type to workshops, necessary to repair the combat equipment, recreation rooms, fitness, churches etc.

As it can be seen in Figure 8 this observation post sits on top of a mountain, it is able to track up to a large distance any activity; there are no waves of earth but earth walls, supported by a supporting structure consisting of a fence iron wire and concrete; in this post of observation there are weapons capable of fighting back at any time to an attack or to support the soldiers in patrol missions who were surprised by the actions of the terrorists.

## CONCLUSION

The fortresses signified heavy points of a country in asserting the national independence of a state. Therefore, since ancient times, people have sought to understand the environment and defense possibilities of the communities in which they lived, and not infrequently, the fortresses were places of extremely bloody confrontations

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