

WRITTEN AND ARCHAEOLOGICAL SOURCES FOR THE RECONSTRUCTION OF ROMAN ROAD NETWORK IN THE PROVINCE OF LOWER MOESIA

Adriana Panaite*

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Summary: In *Moesia inferior* traces of Roman roads are rare. Most of their descriptions belong to the late nineteenth century and were carried out especially by the Shkorpil brothers. Many of the roads thus mentioned do not exist anymore. The aim of this article is to propose the reconstitution of the communication network of the province based on the analysis of literary, epigraphic and archaeological sources. The most important written sources are listed grouped by the type of given information on the roads: definition, types, stages of construction, juridical regime etc. The cartographic sources are the main ones: *Tabula Peutingeriana*, *Itinerarium Antonini*, *Notitia Dignitatum* etc. Epigraphical and archaeological sources are added to these. If the literary or juridical sources, maps, etc. contain general information, valid throughout the Roman Empire, for the reconstitution of the road system of *Moesia Inferior* the most important role is played by inscriptions: the milestone inscriptions, those mentioning military annexes built along the roads or second-ranking soldiers charged with guarding roads. All these data enable not only to outline the routes but also to establish their chronology.

Rezumat: Urme ale drumurilor romane din *Moesia Inferior* sunt foarte puține. Cele mai multe dintre ele aparțin descrierilor făcute spre sfârșitul secolului al XIX-lea și datorate în special fraților Shkorpil. Multe dintre ele nu se mai păstrează până astăzi. Articolul de față propune reconstituirea rețelei căilor de comunicație ale provinciei pe baza analizei surselor literare, epigrafice și arheologice. Sunt menționate mai multe surse scrise, grupate în funcție de tipul de informație oferit: definiție, tipuri, etape constructive, regim juridic etc. Cele mai importante surse sunt cele cartografice: *Tabula Peutingeriana*, *Itinerarium Antonini*, *Notitia Dignitatum* etc. Acestea li se adaugă sursele epigrafice și cele arheologice. Dacă sursele literare, juridice, cartografice etc conțin informații cu caracter general, valabile pentru tot Imperiul Roman, în reconstituirea sistemului de drumuri din *Moesia Inferior* cel mai important rol îl au inscripțiile de pe stâlpii miliari, cele amintind construcții anexă ridicate de-a lungul drumurilor, sau cele atestând prezența oșterilor însărcinați cu paza acestora. Toate aceste date ne permit schițarea traseelor și cronologia, nu numai a drumurilor principale (*limes*, litoral, paralel cu Dunărea, central-dobrogean) dar și a celor secundare sau locale.

Written sources,¹ represented by historical and geographical writings, travel guides, letters, novels, poems and epigrams are the main source of information on Roman roads. Here we find a wide variety of references that start from design and technical elements extend to the everyday life. Because it is impossible to include all of them we will focus on some of the most important, grouped by the type of information provided.

What is a road and depending on what elements is defined we find out in the writings of Varro, Isidorus and Servius. According to Varro, referring to popular etymology, the term *via* comes from the term *veha*: *rustici atiam nunc quoque viam veham appellant propter vecturas*,² *quod ea vehendo teritur*,³ *qua vehebant viae dictae*.⁴ There are few definitions of the term *via* in written sources and the central element to which they relate is that of paving with stone: *primi autem Poeni dicuntur lapidibus vias stravisse*⁵ or *primi enim Poeni vias lapidibus stravisse ducuntur*.⁶ A second important element in relation with the roads are defined are vehicles: *qua potest ire vehiculum*⁷ or *via dicta a vehiculis incursum viae privatae*.⁸ If these sources are directly related to the technical characteristics of the road layout, other definitions focus on legal and administrative elements: *publice ire, commeari, publice munire: viae sunt ... publicae per «quas»* (the complete formulation according to Ulpianus, Dig. 23: *per quas omnibus commeari licet publice ire, commeari omnibus licet* and Ulpianus, Dig. 21: *ut la publicae iretur commearetur*), (beginning of the 1st century A.D.)⁹

* Adriana Panaite: "Vasile Pârvan" Institute of Archaeology, Bucharest.

¹ Alfieri 1994, pp. 9-22.

² Varro, *Rer. Rust.*, I, 2, 14.

³ Varro, *Rer. Rust.*, V, 22.

⁴ Varro, *Rer. Rust.*, V, 35.

⁵ Isidorus, *Orig.* XV, 16, 6.

⁶ Servius, *Aen.* I, 422.

⁷ Servius, *Aen.*, IV, 405.

⁸ Isidorus, *Orig.*, XV, 16, 4.

⁹ Festus, 508, 20, sgg. L.

and *publica est, quae in solo publico est, qua iter, actus populo patet* (beginning of the 7th century A.D.).¹⁰

In ancient sources¹¹ information on road construction are among others at Vitruvius¹² and Statius.¹³ The first one, the author of a ten books architecture treaty, refers in a paragraph of the seventh book to the technique for the construction of pavement:

Vitruvii VII,1: *Primumque incipiam de ruderatione, quae principia tenet expolitionum, uti curiosius summaque providentia solidationis ratio habeatur. Et si plano pede eruderandum, quaeratur, solum si sit perpetuo solidum et ita exaequetur et inducatur cum statumine rudus. Sin autem omnis aut ex parte congesticius locus fuerit, fistucationibus cum magna cura solidetur. In contignationibus uero diligenter est animaduertendum ne qui paries, qui non exeat ad summum, sit extractus sub pavementum sed potius relaxatus supra se pendentem habeat coaxationem. Cum enim solidus exit, contignationibus arescentibus aut pandatione sidentibus, permanens structurae soliditate dextra ac sinistra secundum se facit in pavementis necessario rimas.*

Starting from this passage one of the first researchers¹⁴ who dealt with roman roads launched the assumption that all roman roads contain the four layers enumerated by Vitruvius. This confusion has persisted for a long time, but the fact remains that, at least in theory, any Roman road consists of: *statumen*, *ruderatio*, *nucleus* and *pavimentum*.

The first operation in building a road was represented by tracing two ditches on each side of the future route of the road; then, between the two of them, the four above mentioned layers had to be disposed in a deeper ditch.

From bottom to top the four layers are as follows: *statumen* (0.30 to 0.60 m thick) composed of stones and earth bound with mortar or clay, all well minted because it was the true foundation of the road; *rudus* (0.25 m thick) was a kind of concrete made of finely crushed stone or small pieces of brick mixed with sand and lime, also well minted; *nucleus* (0.30-0.50 m thick) a finer concrete, with a lime and sand cement reinforced with broken tile, rolled out in layers; *pavimentum* or *glarea* or *summum dorsum* (0.20 to 0.30 m thick) is the upper pavement, made of gravel to *viae glarea stratae* and several shaped slabs to *viae silicae stratae* (called *viae munitae*).¹⁵ It should be pointed out here however that the advice given by Vitruvius refers to pavement construction for both inside and outside buildings, but, as already mentioned, not to road construction. It must therefore not surprise us that excavations have demonstrated in some cases that in fact the road structure is far from what Vitruvius writes.

The second author is the poet Statius,¹⁶ who in a few lines in his poem *Silvae* describes in laudatory words the construction of *Via Domitia*. Even if it is a poetic text it provides extremely accurate and useful information:

Hic primus labor incohare sulcos/ Et rescindere limites et alto/ Egestu penites cauare terras;/ Mox haustas aliter replere fossas/ Et summo gremium parare dorso,/ Ne nutent sola, ne maligna sedes/ Det pressis dubium cubile saxis;/ Tunc umbonibus hinc et hinc coactis/ Et crebis iter alligare gomphis./ O quante pariter manus laborant!/ Hi caedunt nemus exuuntque montis,/ Hi ferro scolopas trabesque leuant;/ Illi saxa ligant opusque texunt/ Cocto puluere sordidoque tofo;/ Hi sicant bibulas manu lacunas/ Et longue fluuios agunt minores.

The poet describes how and from what materials it is built a road, referring actually to the layers enumerated above.

Other information relating to technical design appear in a chapter of Pliny the Elder's *Naturalis Historia* which shows how the terraces are made.¹⁷ Further Procopius of Caesarea, in a passage from *The War*

¹⁰ Isidorus, Orig., XV, 16, 5.

¹¹ Duval 1959, pp. 176-186; Forbes 1955; Forbes 1964.

¹² Vitruvius VII, 1.

¹³ Statius, IV, 3, 40-55.

¹⁴ Uggeri 1994, pp. 91-101.

¹⁵ Adam 1994, pp. 276-286; Vismara 1989, pp. 40-52; Sterpos 1970, pp. 25-26; Batino *et alii* 2004, pp. 22-23; Duval 1959, pp. 176-186.

¹⁶ Statius, IV, 3, 40-55; Newlands 2002.

¹⁷ Pliny the Elder, Nat. His., XXXVI, 186-187.

with the Goths, expresses his admiration to the technical characteristics of the pavement of the *Via Appia*.¹⁸

The act itself of building a road appears in the sources in the expression *viam munire: viam publicam muniri*,¹⁹ *viam muniunto*,²⁰ *publice muniuntur*²¹ and repair of a public street in the expression *viam sternere*.

Besides literary sources there is also the category of written technical sources: on agriculture, fortifications, prices, but also about construction techniques or juridical status of roads.

Cato, Varro and Columella²² wrote about Roman agriculture, their works include a series of technical data on local and main routes of communication about their technical characteristics, especially on areas with agricultural properties.

To their works must be added the gromatic writers²³ referring to the roads as limits of the *centuriae*.

Among the most important works of military character is that of Vegetius. Very often a passage from his work *De re militari*²⁴ is quoted to prove the existence of the ancient maps. The term used by him is *itineraria picta*, which, however, according to researchers, seems to define not what we today call a map, but rather a diagrammatic representation that includes landforms, conventional signs for stations, cities, fortifications, etc., which instead does not have scale and does not use geographic coordinates:

...*primum itineraria omnium regionum, in quibus bellum geritur, plenissime debet habere perscripta: ita, ut locorum intervalla non solum passum numero, sed etiam viarum qualitates perdiscat; compendia, diverticula, montes, flumina ad fidem descripta consideret usque eo, ut sollertiores duces, itinera provinciarum, in quibus necessitas geritur, non tantum adnota, sed etiam picta habuisse firmentur, ut non solum consilio mentis, verum ad spectu oculorum viam profecturis eligerent.*

From juridical point of view there are several terms that can define a road as follows:

- *via* is a road wide enough to allow passage of a vehicle;²⁵ a *via* must measure 8 feet wide on straight sections and 16 at the turning point;²⁶

- *actus* is a road wide enough to allow passage of a pack animal. *Actus* has a width of 4 feet;²⁷

- *semita* or *iter* is the tightest among the traffic routes; any road width of less than 4 feet is a path.²⁸

Following Festus a public street is wide *quantum utilitaris permittit ratio*.²⁹

The difference between *actus* and *via* is determined by the road surface, if it is paved or not. *Via* was a paved road allowing carrying out of heavy traffic, while an *actus* was not paved and therefore not allowing it.³⁰

Public or private roads are classified in public, local and private. A first classification belongs to Siculus Flaccus,³¹ gromatic from the first century A.D. According to him there were *viae publicae*, *viae vicinales* and *viae privatae*:

- *viae publicae* are roads built at the expense of the state, named after the builder and they are in the responsibility of the *curatores viarum*.

- *viae vicinales* are also public roads but under the jurisdiction of local communities. According to a passage from *Digestae*³² they are public roads maintained with private financial sources from local land owners.

- *viae privatae* are roads crossing private properties; they are strictly prohibited to any foreign access.

¹⁸ Procopius XIV, 6-11.

¹⁹ Cato, Agr. II, 4.

²⁰ Leg. XII Tab. VII, 7.

²¹ Sic. Flac., Gromat. I, 146, 2.

²² Cato, Agr., I, II; Varro, Rer. Rust., II, 23; XIV, 3; XVI, 6; Columella, De re rustica, I, 5, 11.

²³ Sic. Flac., De cond. Agr., 19.

²⁴ III, 6.

²⁵ Dig. 8.1.13.

²⁶ Dig. 8.3.8; Dig. 8.23.

²⁷ Dig. 8.3.7.

²⁸ Dig. 8.1.3.

²⁹ Festus 508, 22.

³⁰ Dig. 8.3.7.

³¹ Sic. Flac., De Cond. Agr. 109.19; 110.21.

³² Dig. 43.8.22.

The classification made by Ulpianus, lawyer of the third century AD, distinguishes only two categories of roads: public and private. First category includes roads build by the state (often through expropriation of land); Greeks call them *Basilikai*, and Romans *viae pretoriae* or *consulares*, in the Republic time). Private roads separate two properties. *Viae vicinales* (which are also public roads) are those which are in or going to the countryside.

Although at first sight Ulpianus's classification seems simpler and more functional than that of the gromatic writers, in reality this one is much closer to the real situation (as it appears from other sources), while the scheme applied by the Roman jurist is even more simplified and reductionist.³³

According to technical systems, Ulpianus³⁴ distinguishes three categories of roads: *viae terrenae* worked from leveled earth; *viae glareae stratae*, that is those covered with a layer of pressed gravel, and *viae silice stratae*, routes paved with stone blocks. The Romans succeeded in the construction of the last two types, made in rows and layers, a technique called today of "elastic" and "hard" roads.

Most roads were built on the occasion of military operations, with the Senate approval. This is the first reason why, during the Republic and later, it is spoken of *viae militares*. What particular type of road this was and for how long it was this term in use, it is not clear enough.³⁵

Written sources that give clues about the existence of a military mapping are limited because of the way it was created this type of documents, but also due to the fact that they were not available to everyone (by the state secrets); who in Rome have a map was suspected of having ambitions that go beyond those of a simple citizen because at Rome, more than anywhere, geography had a political meaning.³⁶ Tacitus, in particular, talks about the relationship between geographical discoveries and military conquests.³⁷

The same type of indication also appears in the panegyric of Trajan.³⁸ To these are added some inscriptions which mention the chorographers, which not only make plans (maps), but they also engraved them onto bronze plates.³⁹

Ancient itineraries preserved until today can be grouped into two categories. The first one includes those documents that contain conventional signs to represent landforms, water courses and settlements⁴⁰, while the second one is composed only of lists of roads and cities. The first group includes *Tabula Peutingeriana*⁴¹, *Notitia Dignitatum*⁴² and *the Doura Europos Schield*⁴³ and the second one *Itinerarium Antonini*,⁴⁴ *Itinerarium Hierosolymitanum et Burdigalense*,⁴⁵ *Cosmographia*⁴⁶ and *Synecdemos*.⁴⁷

Some researchers who have studied *Tabula Peutingeriana* consider it a late compilation, based on an official document of the third century, contemporary with *Forma Urbis*, which itself started from the world map, the first of its kind in the Roman Empire made by Agrippa in the first century⁴⁸ during the reign of Augustus. According to the established scholarly opinion this diagrammatic representation of the Roman world is a reflection of the information contained in the written Latin itineraries. It collects a wealth of

³³ Palma 1982, pp. 850-880.

³⁴ Dig. 43, 11, 12.

³⁵ Chevallier 1997, pp. 274; Rebuffat 1987, pp. 52-67.

³⁶ Dion 1977; Nicolet 1991; Arnaud 1983, pp. 677-699.

³⁷ *Agricola* 10, 24, 33; *Germania* 1.

³⁸ 56,4: *ignotasque terras victoria sequi*.

³⁹ AE 1947, 61: *chrographiarius item caelator*.

⁴⁰ Panaite, Cirjan 2004, pp. 21-31.

⁴¹ Desjardins 1867; Desjardins 1876; Philippi 1880; Miller 1916; Miller 1964; Levi 1968; Weber 1976; Levi 1981, pp. 139-148; Bosio 1983; Arnaud 1988, pp. 302-320.

⁴² Seeck 1876; Alexander 1976, pp. 11-51; Berger 1981; Clemente 1980, pp. 39-51.

⁴³ Cumont 1925, pp. 1-15; Cumont 1926; Arnaud 1988, pp. 151-163; Arnaud 1989, pp. 373-389; Rebuffat 1986, pp. 85-105.

⁴⁴ Berchem van 1937; Arnaud 1973, pp. 123-136; Arnaud 1992, pp. 374-380; Arnaud 1993, pp. 34-49; Calzolari 1995-1996, pp. 369-527.

⁴⁵ Calzolari 1997, pp. 125-191; Chevallier 1997, p. 59.

⁴⁶ FHDR II 1970, p. 579; Dillemann 1997.

⁴⁷ Honigsmann 1939.

⁴⁸ Nicolet 1991; Baldacci 1988, pp. 39-53; Castagnoli 1975-1976, pp. 59-69; Dion 1977.

geographical details, settlements, vignettes, mansions, roads, distances, physical landscape, people and regions.

Notitia Dignitatum is an official collection of occupied posts by imperial officials related or not with *cursus publicus*. Besides this, are also represented garrisons of military units throughout the Roman Empire and military commander's insignia. Similar to *Tabula Peutingeriana*, *Notitia Dignitatum* includes also several vignettes, conventional signs to represent garrisons. The document consists of two parts, *Pars Orientis* and *Pars Occidentis*, and according to older views it was compiled in the first decade of the 5th century. Newer researches pushes by the end of the fourth century the date when this document was drafted, and in addition, launches a new interpretation of its purpose. Without totally denying that this document would have had a practical purpose newer research put a special emphasis on its propagandistic aspect.⁴⁹

The Doura-Europos-Shield⁵⁰ is a combination of a list of cities and conventional signs (vignettes) belonging to a route around the Black Sea, of which a part is on the water. Because the Danube appears twice (*Istros potamos* and *Danubis potamos*) it is supposed to be probably a Latin document translated into Greek. Dated initially by its first editor in 260 A.D. the document is placed now around the year 200.

Most researchers who have studied the *Itinerarium Antonini* believes that this document should be put in connection both with the reorganization of *annonna militaris* by Diocletian, between 280-290 A.D. and also with the Caracalla's voyage to the East in 214-215 A.D. According to one of the recent interpretations of its origin and date, it would have resulted from the transcription of a map in which was represented the road system of the empire, updated in Severan time, but which it keeps its old title, what would explain the presence of the Antoninus adjective; regarding the document title it has been advanced the hypothesis that this is a falsified document and then any reference to the age of the Antonini is no longer justified.⁵¹

Itinerarium Hierosolymitanum et Burdigalense, the oldest route to the Holy Land, is dated precisely in 333 A.D. It is a voyage from Bordeaux to Jerusalem made by imperial-mail service which mentions all stations the pilgrims passed through, using a map or an itinerary of the same type mentioned above. The document is divided into 18 fragments; their end points coincide with the capital of the empire as with dioceses and provinces capitals from the Constantine period.⁵²

The Cosmography of the Anonymous geographer of Ravenna is a later source dated between 670 and 700, which includes lists of cities presented separately for each province. The author, it has been said that it could be Castorius, confused *mansiones* and *mutationes*. Researchers agree that this source is a complement documentary source to *Itinerarium Antonini* and *Tabula Peutingeriana*.

*Synecdemus*⁵³ is another late source also a list of all the cities presented separately for each province. The document is dated in the first half of the sixth century, and completes our image of the cities and roads of the empire.

For the study of Roman roads, milestones are the main source of information. Based on them it is possible to reconstruct roads lines and directions. At first they had more a geographical function, helping peoples to focus on traveling; in time they gradually become instruments of information and political propaganda. Originally, on milestones were registered the distances to the nearest town in *milia passum* (*milia*

⁴⁹ Ward 1974, pp. 397-434; Brennan 1996, pp. 147-178; Kulikowski 2000, pp. 353-377.

⁵⁰ Cumont 1925, pp. 1-15; Cumont 1926; Arnaud 1988, pp. 151-163; Arnaud 1989, 373-389; Rebuffat 1986, 85-105.

⁵¹ Scarel 2000, p. 22.

⁵² Calzolari 1997, 125-191; Chevallier 1997, p. 59.

⁵³ Honigmann 1939.

passum = 1480 m⁵⁴) which gave in the same time the roads direction.⁵⁵ In addition, it was mentioned on it the name of magistrate who built the road. The term *miliarius* can also be used to define a segment of a mile long road. With the emergence of governmental services in charge of construction and maintenance, while the growing interference of emperors, directly or through delegates into this domain the text of inscriptions on the milestones is changing; the texts gave not only the date of construction or repair but also, in elaborate detail, the full or near-full titulature (sometimes including genealogy) of the emperor or the amount of money spent on road repair. For the positioning of the milestones there are no rules identified yet.

Roman road network in the province of Lower Moesia can be reconstituted based on the types of sources listed above, to which are added the archaeological ones. It consists of three categories of roads: 1- main communication routes („highways”) (the road along the Danube or *limes* road, along the Black Sea coastline, the one parallel with the road along the Danube and the central road through Dobroudja) which are connected by 2- secondary type roads (they come off from the *limes* road and go to the Black Sea coast or to the south to Thrace) and 3- local roads.



Fig. 1. The *limes* road and the Black Sea coast road on the *Tabula Peutingeriana* (photo A. Panaite, *apud* Weber 1976).

The road along the Danube (*limes*) (Fig. 1) was built on a very strategic position and fulfilled primarily a military role. Along it at determined distance were watch stations and signaling towers. The *limes* road starts from *Singidunum* and is built entirely on the right bank of the river. At Danube Delta meets the road along the Black Sea coast that reaches Constantinople. Road construction along the Danube on the route *Singidunum – Viminacium – Ratiaria – Oescus – Novae – Durostorum* and further to the Danube Delta begins in the reign of Tiberius by the work from the Djerdap – Iron Gate, and continues during the time of Claudius and Domitian. This communication route is completed by Trajan, during and after the Dacian wars.

The road along the Black sea coast connects urban centers of ancient tradition, from the Danube Delta to Constantinople, the capital of the empire. Its role occurs decisive when is analyzed in terms of the commercial trade. While economic is prevailing, the strategic dimension of this traffic route should not be overlooked, because the road was one of the main access ways into this area, coming from the South. Originally the road was not set up (“country road”) and the movement was done mainly by sea. The Romans took over the already existing route and have transformed it into a road in a real sense of the word. The period of maximum use is represented by the reigns of Marcus Aurelius and Septimius Severus.

The central road is crossing Dobroudja from South to North, from *Marcianopolis* to *Noviodunum*. It is not represented in any ancient route; its route is determined on the basis of archaeological and written sources. It went through: *Marcianopolis – Zaldapa – Tropaeum Traiani – Medgidia – Ulmetum – Ibida* and from here to *Aegyssus* and *Noviodunum*. The construction of the road from south to north began during the reign of

⁵⁴ Isidorus, Orig, XV, 16,1: *mensuras viarum nos miliaria dicimus, Graeci stadia, Galli leugas. Miliarium mille passibus terminatur; et dictum miliarium quasi mille <adium> habens pedes quinque milia.*

⁵⁵ A single number on a milestone may indicate: (1) the distance from the place of origin of the road from its point zero, (2) the distance from the last major town crossed by traveler before, widely used in later times as demonstrated by the inscriptions on discovered milestones and *stationes* name, (3) the distance from the nearest, large and important town. Two numbers can indicate: (1) first one the distance from the place of origin and the second one the distance from the nearest major city and, (2) the bigger number could be the total distance covered since the beginning of the road up to that point and the second one the shortest distance from the last major town crossed (e.g. CIL I/2, 624). Three numbers may indicate: the biggest number could be the total distance covered and the other numbers the distances to nearest localities. Cf. Radke 1981, pp. 66-69.

Hadrian, some segments are repaired in the time of Severus, and then the retrace of its path, on a large scale, occurs at the beginning of Late Roman time. An additional argument would be that in the reign of Hadrian - Antoninus Pius is projected the main road parallel to the *limes* road. The road will be used until late as an alternative and safer route for both the *limes* as well as the one along the Black Sea coast.

The central road parallel to the *limes* road had the following route: *Montana – Melta – Nicopolis ad Istrum – Marcianopolis – Odessos*. The segment between *Melta* and *Marcianopolis* is represented in *Tabula Peutingeriana*. The only intermediate station between the two is *Nicopolis ad Istrum*. The segment between *Odessos* and *Marcianopolis* appears only in the *Itinerarium Antonini*. Construction of some segments will be started by the time of Trajan, with the foundation of the cities of *Nicopolis ad Istrum* and *Marcianopolis*, but completion of it and connections with other centers in the middle area of the province will occur in the time of Hadrian. About its pronounced fortification we can speak starting from Antoninus Pius and further on, along with crystallization of the concept of “defense in depth”.

From the *limes* road come off more traffic routes oriented West-East and North-South, that reached the province of Thrace or the Black Sea coast. These were:

Oescus (Gigen) represent a starting point of two strategic sections southwards to *Serdica* and *Philippopolis*.

From Guljantsi and Tcherkovitza camps two junctions come off south, which trace the rivers Vit and Osam. They crossed the main road *Oescus – Philippopolis* in Plevna (the Vit River) and Lovetch (the Osam).

In *Novae* (Svishtov), from the main road a secondary road with significant strategic valences comes off, reaching southwards the river Rosita, Stari Nikiup (*Nicopolis ad Istrum*) and continues it's route through Shipka Pass to Stara Zagora (*Augusta Traiana*). A second road goes from here to *Melta* and from there to *Philippopolis*.

From *Sexaginta Prista* (Ruse) started southwards two major sections which connects the *limes* with large urban areas. One, along the Beli Lom river valley, to Razgrad (*Abritus*) and Devnja (*Marcianopolis*) and another one along Tcherni Lom and Iantra rivers valleys to Gorna Orjahovitza, Veliko Tarnovo, Gabrovo and Stara Zagora.

Durostorum (Silistra) is a bifurcation point of major strategic road. A section heading to *Marcianopolis* other to *Aitos* and one to *Zaldapa*, each of these localities then project the road to large urban centers in the province (*Tropaeum Traiani*), on the coast (*Callatis* and *Odessos*) and Thrace (*Anchialos*).

Capidava was connected with the Black Sea coast road by two roads which reached *Tomis* and *Histria*.

From *Axiopolis* come off a section which along the Carasu valley goes to *Tomis*. This represents the shortest route which crosses transversally Dobroudja from Danube to the Black Sea.

From *Carsium* there is another important road connecting *limes* and Black Sea coast, crossing Dorobanțul-plateau on an almost straight trajectory towards Istria.

Troesmis is the starting point of another road from Danube to Black Sea along the Taița Valley and along the lakes of the northern Babadag plateau (Topraichioi, Babadag).

Towards *Noviodunum* (Isaccea) comes from the south the great strategic section of the median road from *Marcianopolis* by *Zaldapa* and *Tropaeum Traiani*.

The rivers that flow into the Danube had roads along them (mostly on the right bank): Tzibritza, Ogosta, Isker, Vit, Osama, Jantra, Rusenski Lom.

The supposed route of the secondary roads belonging to the territory of each city in the province, can be drawn based on a repertoire including settlements – *vici* and *pagi*, *villae*



Fig. 2. The milestone from Sacidava (apud. Rădulescu, Bărbulescu 1981).

rusticate,⁵⁶ beneficiaries stations, *mansiones* etc. to which is added archaeological and epigraphic information.⁵⁷

So far, from the territory of *Moesia Inferior* were published 109 milestones.⁵⁸ The texts are written in Latin with the exception of four pieces, written in Greek, which were discovered near *Odessos* (Varna).⁵⁹ The oldest milestone is dated at the time of Trajan and was discovered at *Sacidava*⁶⁰ (Fig. 2) and the latest is from the time of Theodosius and Arcadius and was discovered in Kipra.⁶¹

A number of 40 milestones were found along this road in the following localities: *Arubium* (Măcin),⁶² *Axiopolis* (Cernavodă),⁶³ Basarabovo,⁶⁴ *Capidava*,⁶⁵ *Carsium* (Hârșova),⁶⁶ Corabia–Celei,⁶⁷ *Dinogetia* (Garvăn),⁶⁸ Dolapite,⁶⁹ Marten,⁷⁰ Mečka,⁷¹ Mânăstirea Saun,⁷² *Novae* (Svishtov),⁷³ Rasova,⁷⁴ Seimeni,⁷⁵ *Sexaginta Prista* (Ruse),⁷⁶ *Sacidava* (Muzait - Dunăreni),⁷⁷ *Sucidava* – Celei,⁷⁸ Topalu,⁷⁹ Vetren;⁸⁰ 37 pe drumul de-a lungul litoralului Mării Negre descoperiți la: Albena,⁸¹ *Callatis* (Mangalia),⁸² Corbu,⁸³ *Histria* (Istria),⁸⁴ Mihai Viteazu,⁸⁵ *Odessos*,⁸⁶ *Tomis* (Constanța),⁸⁷ Săcele,⁸⁸ Sinoe,⁸⁹ Vama Veche,⁹⁰ 2 Mai,⁹¹ and 23 August.⁹²

⁵⁶ Panaite 2004, pp. 185-203.

⁵⁷ Panaite 2006, pp. 57-71; Panaite 2010, pp. 373-380.

⁵⁸ Bărbulescu, Câteia 1998, p. 127 note 89 there are several pieces mentioned in the literature and unpublished coming from *Halmyris* (Murighiol), (two pieces discovered at the West Gate), Berteștii de Jos (Ialomița County) (probably from Dobruđa), *Callatis* (Mangalia).

⁵⁹ *Odessos*, IGB I² 251; *Odessos*, IGB I² 252 (a); Devnja, IGB II 797; Povljanovo, IGB II 834.

⁶⁰ Rădulescu, Bărbulescu 1981, pp. 353-359.

⁶¹ SGLI 149, Mirčev 1952(3), 70, no. 2, photo no. 86.

⁶² IGLR 239.

⁶³ CIL III 7602.

⁶⁴ CIL III 6237.

⁶⁵ Opreș, Popescu 1996, pp. 189-190; ISM V 9; Bărbulescu 2008, pp. 173-177, no. 3.

⁶⁶ ISM V 95, 96, 97, 99, 100; IGLR, 231, 232; Nicolae 1995-1996, pp. 135-159.

⁶⁷ Tudor 1960, pp. 523-524.

⁶⁸ Ștefan 1957, pp. 221-227; Gostar 1963, pp. 169-171; Moisil 1910, pp. 141-143.

⁶⁹ CIL III 14460.

⁷⁰ CIL III 6238, 14459.

⁷¹ Hollenstein 1975, nr. 34, 69.

⁷² ISM V 250 bis.

⁷³ Kolendo, Božilova 1997, no. 74.

⁷⁴ IGLR 190; Rădulescu 1969, pp. 349-354; CIL III 12512.

⁷⁵ ISM V 1, 2.

⁷⁶ Hollenstein 1975, no. 3, 8; Stein 1960, p. 106; Seure 1915, p. 184, no. 139; Shkorpil 1912, pp. 3-4.

⁷⁷ Rădulescu, Bărbulescu 1981, pp. 353-359.

⁷⁸ IGLR 278.

⁷⁹ Bărbulescu, Rădulescu 1980, pp. 140-157, no. 1.

⁸⁰ Teodorescu, Mateescu 1915 (1916), pp. 215-216.

⁸¹ Hollenstein 1979, pp. 42-46.

⁸² ISM III 196, 197, 198; Bărbulescu 2008, pp. 9-10, no. 4; Bărbulescu, Rădulescu 1980, pp.140-157, no. 5.

⁸³ ISM I 321; IGLR 82; Bărbulescu, Câteia 1997, pp. 183-198.

⁸⁴ ISM I 316, 319, 320; Mirtchev 1952, pp. 69-81.

⁸⁵ IGLR 167.

⁸⁶ Hollenstein 1975, no. 23, 24, 69; IGB I² 251.

⁸⁷ ISM II 49(15), 53(19), 109(75), 112(78); DID II, p. 192, footnote 56; Bărbulescu, Rădulescu 1980, pp.140-157, no. 2, no. 4; Bărbulescu, Rădulescu 1991, pp. 123-141.

⁸⁸ CIL III 14461.

⁸⁹ ISM I 317, 318, 322.

⁹⁰ IGLR 108.

⁹¹ ISM III 199.

⁹² ISM III 195.

From the main central road which crosses Dobroudja from North to South, from *Marcianopolis* to *Noviodunum* ten milestones were found at: Cheia,⁹³ *Ibida* (Slava Rusă),⁹⁴ Dorobaņu,⁹⁵ Medgidia,⁹⁶ Mihail Kogălniceanu,⁹⁷ *Tropaeum Traiani* (Adamclisi),⁹⁸ Valea Dacilor,⁹⁹ *Zaldapa* (Abtaat, Abrit).¹⁰⁰

18 milestones come from secondary roads and were discovered at: *Abritus*,¹⁰¹ Altek,¹⁰² Arsa,¹⁰³ Bodenec,¹⁰⁴ Crângu,¹⁰⁵ Devnja,¹⁰⁶ Goren Čiflik,¹⁰⁷ Kipra,¹⁰⁸ Lomec,¹⁰⁹ Miriștea,¹¹⁰ Paskalevo,¹¹¹ Povljanovo,¹¹² Plopeni,¹¹³ Ribin Vir,¹¹⁴ Tlačane,¹¹⁵ Topolite,¹¹⁶ Štipsko,¹¹⁷ and 4 pieces are with unknown place of discovery.¹¹⁸

The second category is represented by the inscriptions mentioning *beneficiarii consulares*, lower rank under-officers, in charge of guarding the roads. On the territory of the province were discovered 48 such inscriptions.¹¹⁹ They come from both the main as well as the secondary roads. A high concentration of them is registered in the Montana area, but also in other places along the road parallel to the *limes* road (at Glava Panega in Asklepion). In terms of dating they fall largely during the second and third centuries, most of them come from the second half of the second and the first half of the third century AD.

Some inscriptions discovered in *Moesia Inferior* and *Thracia* remember annex buildings along Roman roads with military function. These are dated during the reign of the emperors Nero, Antoninus Pius and Marcus Aurelius and were discovered at: Ihtiman (*mansio Helice*),¹²⁰ Butchin,¹²¹ Mihiltzi,¹²² Belozem (*statio Parembole*),¹²³ Nevsha,¹²⁴ Shipka,¹²⁵ Bălgarski Izvor,¹²⁶ Pantchevo,¹²⁷ Voinijagovo (*statio Viamata*).¹²⁸ The first four dates from the time of Nero, following four from the time of Antoninus Pius and the last one belongs to Marcus Aurelius's reign.

⁹³ Bărbulescu 2008, pp. 169-171, no 1.

⁹⁴ ISM V 223.

⁹⁵ ISM V 5.

⁹⁶ Bărbulescu, Câteia 1997, p. 183, no. 1.

⁹⁷ Bărbulescu, Câteia, Wišoșenschi 2009, pp. 414-417.

⁹⁸ Panaite 2006, pp. 57-71.

⁹⁹ Bărbulescu, Câteia 1997, pp. 183 – 198, no. 1, no. 2.

¹⁰⁰ CIL III 14464; Hollenstein 1975, nr. 59.

¹⁰¹ Ivanov 1981, pp. 48-54.

¹⁰² Hollenstein 1979, pp. 42-46.

¹⁰³ Bărbulescu 2008, pp. 171-173, no. 2.

¹⁰⁴ CIL III 12521.

¹⁰⁵ Alexandrescu, Panaite 2009, pp. 429-455.

¹⁰⁶ IGB II 797.

¹⁰⁷ SGLI 150.

¹⁰⁸ SGLI 149.

¹⁰⁹ CIL III 14430.

¹¹⁰ ISM II, 114(80).

¹¹¹ CIL 12519.

¹¹² IGB II 834.

¹¹³ Bărbulescu, Rădulescu 1980, pp.140-157, no. 3.

¹¹⁴ Vladimirov 1963, pp. 33-34.

¹¹⁵ ILBR 159.

¹¹⁶ Hollenstein 1975, no. 42.

¹¹⁷ CIL III 13758; CIL III 14215¹.

¹¹⁸ Tudor 1956, pp. 563-625, nr. 162; IGLR 274, 276.

¹¹⁹ Schallmayer *et alii* 1990; Ivanov 1993, pp. 26-30.

¹²⁰ Ivanov 1973, pp. 209-213.

¹²¹ Filow 1912, pp. 16-17.

¹²² CIL III 6123 = CIL III 14207³⁴.

¹²³ Hollenstein 1975, nr. 2⁴.

¹²⁴ Mirtchev 1961, pp. 15-16, no. 14.

¹²⁵ Bujukliev, Getov 1964, pp. 29-33.

¹²⁶ ILBR 211.

¹²⁷ Katzarov 1926-27, pp. 107-112.

¹²⁸ Madzarov 1985, pp. 36-45.

In Lower Moesia two inscriptions contain the expression *via publica*. The first one,¹²⁹ written in Greek, is a complaint to the emperor, of the inhabitants of *Chora Dagei*, which is a settlement, located near the “public road”. They ask for them that their obligations for road maintenance (*leitourghiai, angareia = munera*) to be reduced. The same inscription mentions a second location, *Laikos Pyrgos*, where previously started “public road”, and whose inhabitants, having the same problems in carrying out the public tasks, complained about them to the governor.

The second inscription,¹³⁰ written in Latin, comes from *Ulmetum* (Pantelimonu de Sus), and is most likely a delimitation decision of a land in which, among other elements of reference, appears “*viam publicam*”.

Field research and survey rather than systematic excavations led to the identification of segments from Roman roads which are essential in determining their route.

Traces of the road along the Danube (the *limes* road) were identified and observed in several localities. From the descriptions made by the travelers and researchers it is noted that its aspect is not uniform. Both building materials as well as size of the identified segments are different. Further archaeological research to clarify the stratigraphy and structure of the road were not made:

- in the area of Leskovetz village, where *Variana* lays, have been seen traces of the ancient road, with the width of six feet and covered with tiny stones.¹³¹

- in the area between *Tegulicium* (Vetren) and *Durostorum* the road can be traced over a distance of about one kilometer, keeping a constant width of 8 m, with a significantly higher rate than the surrounding land with 0.30 to 0.40 m. In the Aidemir village the upper cover of the road disappeared, nevertheless there are still several rectangular limestone blocks with approximate dimensions 0.60 x 0.40 x 0.35 m.¹³²

- in the *Oescus* camp area and right next to it the Roman road was found in the area of the Baikal village (*Palatiolum*). In 1930 works were made for course corrections of the Isker river, on which occasion the traces of ancient road could be observed after draining the riverbed. Traces of the road including edges have been observed also by Ivanov in 1947. Road was 6 m width and paved with large size stones. On its profile the other layers could be seen: small stones and sand. All the layers above are 0.40 m thick.¹³³ In the drawing of the area made by Skorpil it is seen another way. It starts from the Western gate of the fortress *Oescus II* and led to the Danube, undoubtedly to the bridge built by Constantine the Great. The road has been investigated up to 15 m long in front of the gate. Its width can not be determined in this area. It was built only from a single layer of gravel.

- On the section *Transmarisca - Nigrinianis* the road has a width of 5 m.¹³⁴

- Other points where the Roman road has been identified, without details on its technical features, are: *Beroe*,¹³⁵ *Ibida*,¹³⁶ *Capidava*,¹³⁷ *Rasova*,¹³⁸ *Dinogetia*, *Novae*, *Dimum*.¹³⁹

Traces of the road along the Black Sea coast within the province of Lower Moesia do not appear. They have been identified further south, in Thrace, in the area of the Burgas bay.¹⁴⁰

The route of the segments of the road parallel to the *limes* road, that do not appear in *Tabula*

¹²⁹ ISM I 378.

¹³⁰ ISM V 60.

¹³¹ Ivanov 1999, p. 279.

¹³² Teodorescu, Mateescu 1915 (1916), pp. 213-217; Teodorescu, Mateescu 1916, pp. 36-51.

¹³³ Ivanov 1999, p. 281 and fig. 104.

¹³⁴ In the nineteenth century parts of the road between *Transmarisca* and Cadichioi were still visible: the width was 5 m, the road rises up to 0.50 m above the ground; not far from the village there are the ruins of a small Roman or Byzantine bridge; the road towards Vetren it removes from the Danube with about 400-500 m to the inside; at Popina road were still visible segments with width of 70-80 m; in this area the *limes* road was built in Flavian age, Ivanov 2003, p. 71.

¹³⁵ Comşa 1959, pp. 761-764.

¹³⁶ Sauciuc Săveanu 1934, p. 112.

¹³⁷ Florescu 1958, p. 12.

¹³⁸ Zahariade 1996, p. 225.

¹³⁹ Mitova-Djonova 2003, p. 40.

¹⁴⁰ Shkorpil 1890, pp. 15-16; 1891, p. 117; 1892, p. 36.

Peutingeria, was reconstructed based on field research. They led to the identification of ancient road segment, to which are added traces of settlements, *stationes*, and inscriptions on milestones. Last but not least indices about it, although rarer, also appear in the written sources.

Information based above all on the inscriptions allows us to outline the following steps of the construction and use of the road network in Lower Moesia:

- Trajan laid the foundations of the system of roads in Moesia inferior. After the conquest of Dacia the *limes* stretches way up the Danube Delta, from which will gradually come off new branches which will determine the articulation of a real communication network. Now is “modernized” also the coast road and begins the construction of the road parallel to the *limes*. Trajan’s successor will begin the construction of the central road through Dobrudja.

- Next moment is placed during the reign of Antoninus Pius. During his reign along the inner roads are built new types of fortifications aiming to defend the roads.

- The moment of maximum intensity in terms of constructive work is represented by the reigns of the emperors Marcus Aurelius and Septimius Severus. The large number of milestones dated in their time (26) indicates a real repair program designed to ensure proper functioning of the roads. Not only surface circulation is considered but also the annex buildings.

- After the events of the mid third century, two well defined moments in the evolution of the system of roman road in the Lower Danube area can be identified: the first one is placed in the time of Diocletian and Constantine, and the second one in the time of Anastasius and Justinian. Both are periods of reforms that lead to the transformation of the state, which, ultimately, extended the existence of the empire for a long time. For the Lower Danube this is a special period. The region represents the „hinterland” of the new capital and therefore roads and fortifications are either repaired or rebuilt.

Roman roads continued to be used long after the fall of the empire. Few traces of them still exist today. But what shows an extraordinary knowledge of the territory by their builders is the fact that contemporary roads follows to an overwhelming extent the same route as those from the Roman period.

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