

**Univerzita Karlova
Filozofická fakulta**

Ústav pro klasickou archeologii

Teze disertační práce

Mgr. Michal Dyčka

**ANTONINSKÝ LIMES: SROVNÁNÍ ANTONINOVA VALU A
ODENWALDSKO-NECKARSKÉ SEKCE HORNOGERMÁNSKÉHO
LIMITU**

**THE ANTONINE LIMES: THE COMPARISON OF THE ANTONINE
WALL AND THE ODENWALD-NECKAR SECTION OF THE UPPER-
GERMAN LIMES**

Vedoucí práce doc. PhDr. Jiří Musil, Ph.D.

2020

The former Limes Romanus is archaeologically investigated for nearly 150 years and through all that time, its remains are interpreted by historians, numismatists, epigraphist as well as archaeologist themselves. The main focus of the interpretation, so called “Mittelpunkt”, is the original purpose of the elaborate frontier installations, built between 2nd and 3rd century AD on the boundaries of Roman Empire in Europe, Africa and Asia. Why Romans built it in the first place? Have the later alternations changed the original purpose of the Limes? For which particular tasks the frontier installations were intended to help them and what were the general benefits achieved by Roman Army by having in front of their permanent bases structures like linear barriers, roads or strings of outposts? Why Romans sometimes defined frontiers in strictly linear manner (ORL, Danubian provinces) and sometimes they kept outposts relatively far away from these linear barriers (like north of the Hadrian’s or Antonine Walls)?

Due to the dearth and ambiguity of the literary evidence from the antiquity, one has to rely almost solely on the interpretation of archaeological records, consisting most importantly of forts but also including fortlets or watchtowers, various forms of linear barriers as well as complex road networks (BREEZE – YOUNG 2008, 29–37). The interpretation itself can vary dramatically – just the Antonine Wall was in the past understood as defensive curtain blocking the access to civilised Roman Empire (BEDE 1910, *Historia Ecclesiastica gentis Anglorum* 1, XII), as the monument dividing the barbarians from Romans physically (SHA, *Historia Augusta*, Hadrian 11.2), as the zone of controlled interaction between Roman and non-Roman world (MACDONALD 1934, 388–393), technical installation designed to counter medium-sized threats in the borderlands (HANSON – MAXWELL 1986, 171) or as the set of installations to counter low-scale raiding (GRAAFSTAL– BREEZE – JONES – SYMONDS 2015, 63–67). Similar development of interpretation can be observed on ORL (BECKER 2008, 8–24) and also in other parts of the former Empire (e.g. BREEZE 2011).

The interpretation usually depended on the evidence at hand, but naturally it was also influenced by the mind-set of the researcher. Historians thus always tried to look for broader context of the Empire and the events taking place within it while archaeologists interpreted history itself rather via successions of construction and demolition activities. Knowing his own limitations of selective reading of the records of the past, author of this thesis would like to offer his humble contribution to the topic of Roman frontiers via comparison of two geographically separated but roughly contemporary examples, the Antonine Wall and the Odenwald Limes. The comparison should highlight the similarities/dissimilarities of the

selected examples and pinpoint to the way the Roman frontiers were surveyed and maintained in general.

Second step in analysis of the Roman frontier systems presented in this thesis is the interpretation via spatial analyses. This may be yet another limitation via the mind-set of the researcher, but the core of the idea stands on the presumption, that the landscape and its nature were the environment with which the builders and planners of the Limes had to deal with. In fact, the author of this thesis would like to propose that Romans utilized landscape at hand for their benefits in much more intensive manner than thought before, principally in order to make the frontier system efficient. The landscape setting of individual sites can tell us sometimes more about the nature of the sites at hand than the succession of layers or distribution of material culture present on the individual sites alone. Thus the initial impetus of this thesis was to compare two examples of the Roman frontiers in terms of nature and distribution of sites, the size of their garrisons, the landscape setting of permanent bases and marginal outposts, the visibility from permanent installations to the landscape and mutual intervisibility between Roman sites, the accessibility of both frontiers as linear barriers as well as the accessibility of the individual sites chosen as spots for permanent garrisons. This approach is more or less in accordance with current approach to the topic of Roman frontiers including both studied sectors (BAATZ 2007, BREEZE 2011, SCHALLMAYER 2010, POULTER 2018).

The structure of the thesis is thus as follows: initially is summarized the archaeological evidence about both studied sectors (subchapters 2.2 *The Antonine Wall – the frontier* and 3.2 *The Odenwald Limes – the frontier*). To the topic of more investigated Antonine Wall in present-day Scotland is naturally paid proportionally more attention since it has also been more studied than the example of the Roman frontier system from present-day state of Hessen.

After the archaeological summary or introduction, both frontiers are interpreted via selected spatial analyses in the GIS environment (subchapters 2.3 *The Antonine Wall – the Interpretation via spatial analyses* and 3.3 *The Odenwald Limes – Interpretation via spatial analyses*). Principally the visibility, intervisibility and accessibility of the individual sites are studied as well as spatial relationships between individual sites and the landscape where they are set up. Based on the presented results, further questions arise and so suggestions are offered to the way how both frontiers were surveyed and how could they operate or were intended to operate. There are also briefly discussed the alternations of both frontiers during their respective existence and the way their functionality could have been influenced or changed by that.

Following chapter is presenting the comparison itself (*4. Comparison of the Antonine Wall and the Odenwald Limes*), initially dealing with the question what can be even compared. Then, the construction and abandonment of the frontiers are briefly compared together with the character of inscribed material found over centuries in the context of both the Antonine Wall and the Odenwald Limes. The main focus is devoted to the surveying phase of the frontiers – suggestions how could have been both studied frontiers surveyed are offered together with issue what kind of prerequisites were looked for the permanent bases on both studied sectors. As a result can be perceived the subdivision of individual sites on both frontiers into two categories:

- 1) those nodal for the surveying, which defined the positions of the others.
- 2) those marginal, which were positioned with respect to the others, based on the intervisibility, blocking the convenient paths to the area of Limes, (long-)distance alignments or distance formulas.

In the chapter 5. *Modus operandi of the Antonine Wall and the Odenwald Limes* is discussed the way how both studied examples of the Limes could operate. The interpretation is largely/principally based on the evidence collected through spatial analyses in correlation with archaeological records and its interpretation via comparison mentioned in preceding chapters.

The conclusions summarized in 6th chapter can be perceived as somehow speculative but they are mentioned as an attempt to shed a bit more light on the purpose and operation of the frontiers since they are trying to answer the fundamental question already raised in the 1st introducing chapter of the thesis: what were the landscape prerequisites of Roman permanent bases on the Limes? Were Roman frontier posts intervisible enough to maintain effective signalling system (either lateral or direct – WOOLLISCROFT 2001, 109–111) on the studied sections of the frontiers? How fundamental hindrance for free movement throughout the landscape did the Limes presented? How did the Romans survey the Limes and what they had in mind when they were looking for the sites for permanent installations?

Thus, the principal benefit of the thesis is an attempt to verify frequently appearing but otherwise vague statements like “the fort was strategically positioned in the landscape”, “the site offered an excellent view to a nearby valley”, or the “fortlet was built in an excellent position in order to block south-northern communication”. Over 250 illustrations, 285 pages and 14 tables are trying to offer more measurable or quantifiable foundations for such conclusions.

The submitted thesis is suggesting that, based on the presented evidence, the Roman frontiers were primarily surveyed via optical means (DILKE 1971, 59–61, 70), the nodal sites from tactical point of view were determined by the (in)accessibility in their own local topography while subordinate or marginal sites were either blocking the access through the secondary corridors to the course of the frontier or they were positioned in the landscape in order to be intervisible with nodal site(s) which made them frequently aligned with original surveying points of the frontier from which they were frequently separated by exact fractions of the Roman Miles alongside the course of the linear barriers or local road networks. Furthermore, the relationship of individual Roman frontier posts to local streams is also discussed.

In the terms of the way how could the frontiers operate the correlation of spatial analyses with accessible documented archaeological record revealed that the main goal of the Limes as it was surveyed and maintained was the equal distribution of the garrison alongside the course of the linear barriers which can be interpreted as an attempt to prevent the low-scale raiding. This function of the Limes was further improved by good visibility beyond the frontier area (Antonine Wall) and on the course of arterial communication lines (Odenwald Limes) as well as by the erection of linear barriers which further tied down the free movement throughout the landscape on horseback. As a concluding summary is in the end of the submitted thesis presented a possible reconstruction of the hierarchy of the sites on both studied examples of the Limes.

Bibliography:

- AUSTIN, N. J. E. – RANKOV, N. B. 1995: *Military & Political Intelligence in the Roman World from the Second Punic War to the Battle of Adrianople*. London.
- BAATZ, D. 2007: Zur Funktion der Kleinkastelle am Obergermanisch-Raetischen Limes. In: Thiel, A. (ed.): *Beiträge zum Welterbe Limes: 2. Forschungen zur Funktion des Limes*. Stuttgart, 8–26.
- BECKER, T. 2008: Die Grenze: Geschichte und Funktion. In: Thiel, A. (ed.): *Beiträge zum Welterbe Limes: 1. Der Limes als UNESCO-Welterbe*. Stuttgart, 8–24.
- BEDE, *Historia Ecclesiastica gentis Anglorum*. Trans. Jane, L. C.: *The Ecclesiastical History of the English Nation*, London 1910.
- BREEZE, D. J. 2011: *The Frontiers of Imperial Rome*. Barnsley.
- BREEZE, D. J. – YOUNG, CH. 2008: The definition of the ‘Frontiers of the Roman Empire World Heritage Site’ – Summary Nomination Statement. In: Breeze, D. J. – Jilek, S. (eds.): *Frontiers of the Roman Empire: the European dimension of a World Heritage Site*. Edinburgh, 29–37.
- CHAPMAN, H. 2006: *Landscape Archaeology and GIS*. Stroud.
- DILKE, O. A. W. 1971: *The Roman Land Surveyors. An Introduction to the Agrimensores*. Newton Abbot.
- FABRICIUS, E. 1935: *Strecke 10. Der Odenwaldlimes von Wörth am Main bis Wimpfen am Neckar*. Der obergermanisch-raetische Limes des Roemerreiches. Band 5. Berlin und Leipzig.
- GRAAFSTAL, E. – BREEZE, D. J. – JONES, R. H. – SYMONDS, M. F. A. 2015: Sacred cows in the Landscape: rethinking the planning of the Antonine Wall. In: Breeze, D. J. – Jones, R. H. – Oltean, I. A. (eds.): *Understanding Roman Frontiers: A Celebration for Professor Bill Hanson*. Edinburgh, 45–70.
- HANSON, W. S. 1999: The Antonine Wall: Recent research. In: Gudea, N. (ed.): *Roman Frontier Studies. Proceeding of the XVIIth International Congress of Roman Frontier Studies*. Zalău, 45–55.
- HANSON, W. S. – MAXWELL, G. S. 1986: *Rome's north west frontier: The Antonine Wall*.² Edinburgh.
- Hyginus, *De munitioibus Castrorum* = Pseudo-Hyginus: *De munitioibus Castrorum*. Trans. D. B. Campbell: *Fortifying a Roman Camp. The Liber de munitioibus castrorum of Hyginus*. Glasgow 2018.
- IVLEVA, T. 2012: *Britons Abroad: The mobility of Britons and the circulation of British-made objects in the Roman Empire*. Leiden.
- KEPPIE, L. J. F. 1974: The building of the Antonine Wall: archaeological and epigraphic evidence. *PSAS* 105, 151–165.
- KEPPIE, L. J. F. 2006: The garrison of the Antonine wall-endangered species or disappearing asset. In: Morillo, A. (ed.): *Limes XX: Estudios Sobre la Frontera Romana*, 1135–1146.

- MACDONALD, G. 1934: *The Roman Wall in Scotland*. Oxford.
- POULTER, J. 2009: *Surveying Roman Military Landscapes across Northern Britain*. BAR British Series 492. Oxford.
- POULTER, J. 2018: New Discoveries Relating to the Planning of the Antonine Wall in Scotland. *Britannia* 49, 113–146.
- SCHALLMAYER, E. 2010: *Der Odenwaldlimes²*. Stuttgart.
- SCHALLMAYER, E. 2012: Der Odenwaldlimes - ein Bodendenkmal in romantischer Landschaft. In: Schallmayer, E. (ed.) *Der Odenwaldlimes. Neueste Forschungsergebnisse*. Saalburg-Schriften 8. Frankfurt. 99–136.
- SCHEUERBRANDT, J. 2012: Zur Steinbauphase des Odenwaldlimes – Das Bauprogramm von 145/146 n. Chr. In: Schallmayer, E. (ed.) *Der Odenwaldlimes. Neueste Forschungsergebnisse*. Saalburg-Schriften 8. Frankfurt. 33–35.
- SHA, *Historia Augusta* = Scriptorum Historiae Augustae: *Historia Augusta*. Trans. D. Magie: *The Historia Augusta*. London 1921.
- WHEATLEY, D. 2002: *Spatial technology and Archaeology*. London.
- WOOLLISCROFT, D. J. 2001: *Roman Military Signalling*. Stroud.

Summary of academic activity:

- Conference presentations:
- 11/12/2012 The Comparison of the Antonine Wall and the Odenwald-Neckar section of the Upper-German Limes – paper presented at conference Perspectives of Classical Archaeology (PeKla 1, Prague, Czech Republic)
 - 29/01/2013 Signal communication of Roman army in context of weather and ancient landscape – paper presented at 9th Conference of environmental Archeology, (KEA 9, Czech Republic, České Budějovice)
 - 21/03/2013 Commercial relations between Mediterranean and Roman Britain: Study on the base of African and other imports in Britain – paper presented at 13th conference Antiqua Orientalia Nova, (OAN 13, Czech Republic, Plzeň)
 - 06/09/2013 Numeri Britonum and Odenwald Limes – paper presented at European Association of Archaeologists 19th Annual Meeting, (EAA 19 Czech Republic, Plzeň)
 - 04/04/2014 Ad fines Mundi – The African units on the Antonine Wall – paper presented at 14th conference Antiqua Orientalia Nova, (OAN 14, Czech Republic, Plzeň)
 - 16/12/2014 Modus Operandi of the Antonine Wall – paper presented at conference Perspectives of Classical Archaeology (PeKla 2, Prague, Czech Republic)
 - 29/05/2015 Modus Operandi of the Antonine Wall – paper presented at conference Computer Applications in Archaeology Visegrad Conference (CAA 2015, Cieszyn, Poland)
 - 14/09/2015 Modus Operandi of the Antonine Wall – paper presented at XXIII. Limes Congress 2015 (Ingolstadt, Germany)
 - 30/05/2016 Limes and landscape: Interpreting the Antonine Wall using the Cost path and Viewshed Analyses – poster presented at Conference on Computer Applications in Archaeology (PPA 2016, Velké Pavlovice, Czech Republic)
 - 24/9/2016 Landscape and Limes: Interpreting the Antonine Wall via spatial analyses in GIS – paper presented at Imperialism and Identities at the Edges of the Roman World 3 (IIERW 3 Petinca, Serbia)
 - 3/9/2018 Modus Operandi of the Odenwald Limes – paper presented at XXIV. Limes Congress 2018 (Viminacium, Serbia)

- 30/5/2019 Modus Operandi Odenwaldského Limitu (SRN) ve světle prostorových analýz (GIS) – paper presented at Conference on Computer Applications in Archaeology (PPA 2019, Kočovce, Slovakia)
- Publications:
- 2016 DYČKA, M. 2016: To See and to be Seen – the Antonine Wall in the context of spatial analysis. *Studia Hercynia* XX 2/2016. 40–66.
- DYČKA, M. 2016: Ad fines Mundi – Africké jednotky na Antoninově valu. In: Pecha, L (ed.) *Staré civilizace Asie a Afriky*. Plzeň, 187–204.
- 2018 DYČKA, M. 2018: The Modus Operandi of the Antonine Wall. Implications of the Viewshed Analysis to the way how Roman Frontiers could actually work. In: Sommer, S. C. – Matešić, S. (eds.): *Proceeding of the 23rd International Congress of Roman Frontier Studies, Ingolstadt 2015*. Mainz, 315–323.
- In print DYČKA, M. (?): Modus Operandi of the Odenwald Limes: Implications of the Spatial analyses to the way how could Roman frontiers actually work. In: ? (ed.) *Proceeding of the 24th International Congress of Roman Frontier Studies, Viminacium 2018*. ?, ?.
- Courses Taught:
- 2013/2014 Římská provincie Britannia – Winter Semester Course at Charles University, Faculty of Arts, Institute for Classical Archaeology
- 25/01/2016 To see and to be seen – guest lecture on Institut für Archäologische Wissenschaften, Archäologie und Geschichte der römischen Provinzen sowie Archäologie von Münze, Geld und von Wirtschaft in der Antike, Goethe Universität
- 2016/2017 Římská provincie Britannia – Winter Semester Course at Charles University, Faculty of Arts, Institute for Classical Archaeology
- 2018/2019 Roman Britain – Winter Semester Course at Charles University, Faculty of Arts, Institute for Classical Archaeology

Educational stay: 04/2014– Postgraduate Research visit to the department of
 07/2014 Archaeology, School of History, Classics and
 Archaeology, University of Edinburgh

 09/2015– Postgraduate Research visit to Institut für Archäologische
 02/2016 Wissenschaften, Archäologie und Geschichte der
 römischen Provinzen sowie Archäologie von Münze, Geld
 und von Wirtschaft in der Antike, Goethe Universität