

Contribution to the study of hinterland of the Early Medieval Stará Boleslav

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1. Introduction

The early medieval Stará Boleslav formed part of the system of strongholds built by the Přemyslids. The Boleslav stronghold was founded around the year 900 on the periphery of the then Přemyslid domain as a residence of members of the sovereign dynasty.

Nearly no systematic attention has been paid to a comprehensive study of the stronghold's hinterland. As far as the evidence relevant of this study is concerned, at least two aspects are of unique significance: the site disposes of an exceptional historical document represented by the so-called foundation deed of the Boleslav canonry (CDB I, No. 382) that informs about substantial components of functional existence of the economic hinterland of the site, and, furthermore, since 1986 on a considerable part of the commonly accessible surroundings of Stará Boleslav has been conducted systematic surface prospecting (see below).

The foundation deed of the Boleslav canonry has mostly served as a source for solving some more general issues of the early medieval economy and social history (above all LALÍK 1963; PÁTROVÁ 1999; PETRÁČEK 2003). Thus, the results of archaeological surface collections have not been evaluated so far, from the view of the above said problem. Recent numerous building activities associated with the rescue archaeological excavation concentrated above all in the historical core of former early medieval stronghold; however, as far as the site's hinterland is concerned they have not brought any substantial information. The occupation evidence detected in this context outside the core is only scarce (BOHÁČOVÁ ed. 2003). Substantial missing part in our understanding of the Boleslav hinterland is the detailed palaeoecological study that would be concentrated on the Upper Holocene and interconnected with the archaeological knowledge.

The Přemyslid stronghold in Stará Boleslav was founded at the confluence of the Elbe and Jizera rivers on the right bank of the Elbe. It was built at a stra-

tegically advantageous site on a low spur of terrace that projects deep into the river floodplain (Fig. 1). Herewith it belongs among the unique group of fortified lowland sites of the Bohemian Early Middle Ages. However, natural environment of the floodplain did not provide appropriate conditions for occupation in close vicinity to the stronghold since this area was continuously endangered by floods. The traces of continual changes of floodplain landscape can still be followed up (cf. BOHÁČOVÁ 2003b). As a periodically flooded territory may be defined the zone bordering the right bank of Elbe river, approx. 1.5 km wide (elevation point around 168 m ASL). But we are still lacking any information regarding the abundance and periodicity of floods or detailed geomorphology of the floodplain in the Early Middle Ages. The existence of the so-called hard floodplain forest during the Early Middle Ages indicating a lower periodicity and intensity of floods is attested through the results of botanical macroremains analysis. This vegetation type is preserved in the floodplain area around Boleslav up to this time (ČULÍKOVÁ 2003, 373–374). The early medieval written sources reported only about floods of extreme extent. However, due to the results of archaeological excavations, and filling of some river branches with alluvia, it is almost certain that change in river regime could have taken place in the course of the 10th century already.¹ Thus, the situation in the Elbe basin in the Early Middle Ages corresponds with results of current studies of

¹ No flood traces could be detected within the investigated early medieval sequences in the stronghold area. The only flood indication, probably of exceptional extent, could be the desolation of the primary fortification of the spur and filling with soil of several ditch-like formations situated in the lowest part of the bailey. These events took place approximately at the beginning of the Late 'Hillfort' Period. It seems that some soil types were washed out during the floods and subsequently they might form the subsoil of a group of cultural layers bordering the stronghold area (RŮŽIČKOVÁ/ KADLEC/ ŽIGOVÁ 2003, 75; cf. HERICOVÁ 2003, 86–88). However, this also could occur during an extreme increase of the Elbe River only (elevation point over 171.50 m ASL).

the fluvial plains on the Central European territory (cf. RULF 1994; POLÁČEK 2001, 320). The floodplain sediments in the vicinity of Boleslav have not been so far investigated in detail from this viewpoint.

A wooded plateau stretches to the east of Boleslav, where is bordered by the edge of a river terrace on the right bank of the Elbe. Its natural conditions offer only a modest opportunity to prove a possible early medieval occupation out of the spur proper. There are supposed to be some more extensive forests also in the Early Middle Ages and for the economic hinterland of the stronghold is therefore generally taken the opposite region on the left bank of Elbe river (SLÁMA 1967; SLÁMA 1988, 54–55). It represents a traditional settlement area with optimal soil (chernozems) and climatic conditions exploited intensively already in prehistoric periods. Moreover, it lies in direct contact with the hinterland of the state centre Prague, which is accessible through a one-day walk.

Mapping of medieval cultural landscape can lean not only on the evidence of archaeological finds but also on written sources, historical-building research, topography, geography and toponomastic, and last but not least on the results of natural sciences based on the research of natural environment and ecofacts gained in archaeological context.² Among the main topics of current studies of the hinterland of Stará Boleslav belongs definition of space that fulfilled the inevitable needs of this central site and the sphere of its economic influence, i. e. its immediate economic hinterland. Initially, the border of the investigated territory was determined by approximately half distance between Prague and Boleslav. Further, occurrence and abundance of the evidence for settlement activities and available environment potential within wider surroundings of the defined area was collected and analyzed. The next step and long-investigated issue represents the settlement structure, its social-economic nature and the questions of real performing and organisation of a system of relations between a centre – consumer or mover of economic activities – and its hinterland that satisfied its needs.

2. Written sources

Fundamental source of information on the issue of the Boleslav hinterland represents the foundation deed of the Stará Boleslav canonry (above all LALIK 1963; BLÁHOVÁ 1996; further PÁTROVÁ 1999; KALHOUS 2003). According to the latest research, the document could be used as a historical source for the 2nd quarter till the 2nd half of the 11th century (except

for the disputable immunity passage; PETRÁČEK 2003, 58–59). After the chronicler Kosmas the canonry was founded in 1039–1046 (Kosmas II, 8, 13). With relation to donations towards the canonry, the deed mentions villages both in the close vicinity of the stronghold³ (Popovice, Dřevčice, and Zápý) situated on the adjacent left bank of the Elbe river and also more distant villages Kozly and Dřísy (Fig. I) that ought to deliver half yield of the princely winepress to the canonry. Other mentioned sites are situated mainly in the adjacent Mělník region or lay to the north of Stará Boleslav (Mečeříž, Dětenice). According to the opinion of Bláhová, their identification with present settlements should not cause any significant problems. However, the money and in-kind payments to the canonry came also from the more distant regions of Bohemia and Moravia. Another site mentioned in the deed – *villa Prisinin* – has been mostly identified with Přívory in the Mělník region. J. V. PRÁŠEK (1908, 106) proposed also identification with the village Brázdím, whose cadastre adjoins from the east to the cadastre of the above mentioned Popovice.

Among the performed activities that are enlisted in the deed and could be pursuit with hinterland of the Přemyslid stronghold are not only agricultural but also other activities biased to natural environment that could not be realized in the settlement area. Besides seven servants assigned for tilth, the potential of inhabitants engaged in agricultural activities at the above mentioned sites that were obliged to pay dues to the sovereign and newly also to the canonry was further reinforced by the gift of seventeen ploughmen (cf. PETRÁČEK 2003, 60). The delivery of a tenth from domestic animals clearly proves that livestock or poultry breeding was frequently present at the site (see below). Livestock breeding was guaranteed during convenient seasons of the year by pasture, whereby one shepherd and some other herdsman, about whom is not known what kind of animals he should look after, were given to the canonry. One of probable variants can be horse breeding. Breeding of a sufficient number of horses must have been inevitable for the medieval higher society. It is also documented by a mention *semper equum habere in curte* (BLÁHOVÁ 1996, 6) from the Boleslav foundation deed, where breeding of horses ready anytime for use is quoted among other activities important for the canonry existence. However, the court mentioned in association with this demand can be neither further characterized nor localised. Its practical

³ Transcription of local names into the Czech language according to the last edition of this document by Bláhová (1996, 5, also the note on p. 14): *Dedi enim villas: una vocatur Popouici, secunda Prisinin (Přívory), tertia Zapí, quatra Dreucici, quinta Mlicasir (Měčeříž), sexta Dethenici cum saltu, septima Drisech cum torculari... Kozlech Wsserad cum filiis.*

² I understand ecofact as a testimony of former natural environment gained through archaeological research.



Fig. 1. Geographic position of Boleslav. The map shows the northern part of Bohemia.

nature rather indicates that it was very probably located within the area of the stronghold itself and not in the hinterland. Also the location of other mentioned non-agricultural activities (smiths, processors of marten furs and skins, producers of wooden vessels etc.) is uncertain. They could have been performed directly in Boleslav or in the surrounding settlements as well. Another specific activity biased to the river was fishing; it was documented by four donated fishermen. Some more distinct idea about the existence of this specialization offers a donation deed of the Břevnov monastery (CDB I, No. 375) perceived newly as a possible source of data about the situation at the turn of the 10th and 11th centuries (PETRÁČEK 2003, 48). Therefrom it is obvious that a particular part of the river flow was bound on a particular person. Similar relation existed also for watermills since their existence is also documented by the same script already for the mentioned period of time. However, standard use of this device is documented only up to the High Middle Ages (cf. KLÁPŠTĚ 2005, 288–291). It was J. V. PRÁŠEK (1908, 106), who considered the existence of a watermill on Elbe river already at the foundation time of the canonry in connection with a report of 1304 that mentions some mills belonging to the left-bank settlement at Hrádek (Brandýs nad Labem cadastre), and T. PETRÁČEK (2003, 62, 236–237) does not exclude it. A mention of a winepress in Dřísy shows clear evidence of another specific cultivation activity – viticulture that was also operated in a broader hinterland of Boleslav. The production of tar was inevitable and an important component of dues was also honey. Donated tar producers used to be associated with forests obtained by the canonry together with Dětenice village (LALÍK 1963, 421). The deed also quotes fourteen beekeepers and their sons who should secure the honey supply. They are all referred as coming from five more distant

villages and therefore it is not obvious where the gathering of this important nutrition component took place. Moreover, every tenth honey pot was designated as a due delivered from farther estates belonging to the stronghold Žatec and to both Boleslavs.

According to the foundation deed of the Boleslav canonry it is clear that the left bank of Elbe river in the immediate neighbourhood of Boleslav was during the 1st half of the 11th century at the latest an occupied and intensively agriculturally exploited landscape suitable for such a demanding and specialized activity as viticulture. From the deed's diction it is clear that the hinterland of Boleslav belonged at the canonry foundation to the sovereign and the princely grange kept to be operating in this area also after the donation. T. PETRÁČEK, as well as older scholars (PRÁŠEK 1908, 108), assumes that in Boleslav contemporaneously existed a grange satisfying the needs of the canonry and an overhead princely court (PETRÁČEK 2003, 63–65).

At the same time, the deed provides the earliest attestation of settlements within the investigated area. However, existence of other sites in close vicinity as well as in immediate neighbourhood of Boleslav is attested only in reports from the decline of the 13th century⁴; the majority of nearby villages is mentioned in reports not until the 14th century (PROFOUS 1954, 1949, 1951; PROFOUS/SVOBODA 1957). The only exceptional case is Vnoř quoted in the foundation deed of

4 Svémyslice is mentioned in 1277 (falsum 13th cent.) as the property of St. George monastery, Ostrov in 1282 as the property of Strahov monastery, Hrádek on the territory of later market village Brandýs (1304 *villa forense*) in 1290, and besides Čelákovice also Brázdim and Polerady – all as *villa* (PROFOUS/SVOBODA 1957, 244; PROFOUS 1951, 297; PROFOUS 1954, 160, 170, 309; PROFOUS 1951, 424), and similarly also Toušeň in 1293 (PROFOUS/SVOBODA 1957, 349). The more distant Sluhy (CDB III, No. 181) was already in 1238 a magnate property.

Tab. 1. Sacred buildings around Stará Boleslav.

Site	Source	Dating	Architecture type
Čelákovice	Merhautová 1971/RBM, II, 656	around 1200/1290	Single-nave
Dřevčice	Merhautová 1971	11 th or 12 th cent.	Single-nave
Lysá n. Labem	CDB I, No. 382, falsum 12 th cent.*, CDB IV, No. 57	1052, 1244	Rotunda
Nehvizdy	Líbal 1974	Romanesque	
Sluhy	Líbal 1974	before 1271	Tower(single-nave)
Vinoř	CDB I, No. 387, falsum 12 th cent./ Merhautová 1971	1088	Tower(single-nave)

* This date results from different reading of a passage in the foundation deed of the Boleslav Canonry; in BLÁHOVÁ 1996: ...*turrem (curtem) dictam Lysa* ...; Merhautová associates the term tower with a building known from a later mention of Lysá n. Labem. Other scholars, however, associate the mention in the Boleslav deed referring to Lysá as the place of imprisonment of Prince Jaromír (PROFOUS 1949, 702; SLÁMA 1986, 90) with another site – the present Stará Lysá lying about 3 km NE of Lysá n. Labem.

the Vyšehrad canonry in 1088 (CDB I, No. 387, falsum 12th cent.) and in Soběslav's deed in 1130 (CDB I, No. 111 – *villa Vinori*). Another site in the broader vicinity of Boleslav – Lysá, laying at the historical route passing by the right bank of Elbe river, is mentioned in the year 1034 (Kosmas, I, 42) as the place of imprisonment of prince Jaromír. According the formulation ...*addidimus etiam turrem (curtem) dictam Lysa post obitum comitis monime Mutis*... attested in the foundation deed of the Boleslav canonry it was a court that should also devolve to this institution after the death of its administrator (CDB I, No. 382; BLÁHOVÁ 1996, 7; cf. SLÁMA 1986, 90).

Later sources (compendiously PROFOUS 1954; 1949, 1951; PROFOUS/ SVOBODA 1957) illustrate that the land property in the hinterland of Boleslav was shared not only by the sovereign and further clerical institutions but also by the gradually arising landlords.

3. Early medieval sacral architecture in broader surroundings of Boleslav

Review of preserved sacral buildings or those mentioned in written sources and their chronology was adopted after A. MERHAUTOVÁ (1971) and D. LÍBAL (1974) (see Tab. 1).

The review shows that the early medieval architecture known is not very numerous and except for the stronghold itself and the flowline Boleslav – Dřevčice – Vinoř (– Prosek – Praha) it does not create any significant spatial concentration (Fig. I.d). From the Přemyslid Boleslav with at least three early medieval sacral buildings concentrated in its core, the nearest early medieval churches (except for the building in Dřevčice lying on the above-mentioned trade route) are situated at least 7 km away. The parish church in the village Sluhy lying at a similar distance from Boleslav as the above listed buildings, which was rebuilt already in 1271 (PROFOUS 1957, 109), does not change

anything at the original distribution of the early medieval structures around Boleslav.

However, some early medieval churches could stand also in direct neighbourhood of Boleslav, namely on the opposite bank of the Elbe river above the mouth of the Vnořský stream. In a village mentioned by medieval sources together with the village Hrádek on the left bank of the river on the opposite side of the ravine, a church with patrociny of St. Laurentius, which is characteristic for Romanesque buildings (BOHÁČ 1972, 35), is mentioned. In the village Hrádek a parish church is attested in 1290 with a similarly ancient patrociny of St. Peter falling into the provostry that was probably founded in the Přemyslid administrative centre Sadská at the end of the 1120s (PROFOUS 1954, 160; SEDLÁČEK 1998, 259; to Sadská VLČEK/ SOMMER/ FOLTÝN 1997, 632). So far, there is no tangible evidence that would enable dating the origins of these buildings into the deeper past; and thus, they are of no significance for the evaluation of the early medieval sacral architecture occurring in the surroundings of Stará Boleslav. Verification of such hypothetic possibility (of the earlier date of these structures) will be examined in any case in the future. Villages associated with the names Vyšší Hrádek (= *higher manor*) and Nižší Hrádek (= *lower manor*) became later part of the town Brandýs.

4. Archaeological evidence

Archaeology contributes to the knowledge of the Boleslav hinterland by rescue excavations of the site itself and its immediate surroundings. Material of settlement and funeral character discovered *in situ* in the commonly accessible vicinity of the Přemyslid Boleslav, isolated finds and, last but not least, archaeological settlement evidence without a distinct context coming from systematically performed non-destructive field survey (KUNA 1998a, 1998b, 2001) is of consider-

Tab. 2. Early medieval cemeteries attested around Stará Boleslav.

Site (numbers and discerning of locations after Sláma 1977)	Note	Dating*
1- 8A, B, C Brandýs n. Labem - further sites in the town cadastre (Nižší Hrádek?)	A? - vessel	RS3/4RS4
2 - 20A, B Čelákovice		RS3-RS4
3 - 43 Dřevčice	amber beads, grape earrings	RS3-RS4
4 - 109 Nehvizdky		RS3-RS4
5 - 116 Nový Brázdím	isolated find, traces of	RS
6 - 172A, B Radonice	finds missing (vessels, temporal rings?)	RS
7 - 187 Starý Brázdím	isolated disturbed grave with vessel	RS
8 - 190 Stránka	unpreserved find from WW2	RS
9 - 213 Velký Brázdím		RS4
10 - 225 Vrábí	at least 2 graves, traces of	RS
11 - 231 Záluží		RS4
12 - 232A, B Zápy		RS3/4-RS4
13 - Zeleneč	> 130 graves, amber beads, silver, silvered and gilded temporal rings	RS3/RS4
14 - 186B St. Boleslav, 5. května Str.	grave? stray find of a vessel	RS4

* Dating: skeleton dating performed according to finds (after the illustrations in: SLÁMA 1977 and by autopsy); symbols used for the chronology with regard to morphological and decorative elements of pottery: RS3/4 – the end of the Middle ‘Hillfort’ Period – highly developed morphology of the Middle ‘Hillfort’ Period or the like decorative elements bound on a calyx-shaped profilation of rims, anal. the end of SB-A horizon (BOHÁČOVÁ 2003a), in comparison with the Prague sequence (BOHÁČOVÁ 2001a) pottery corresponding to PH-B1 horizon, or the turn B1/B2; RS4 – the Late ‘Hillfort’ Period without distinction; RS – Early Middle Ages without distinction; ? – uncertain.

able significance. Information obtained through archaeological finds is furthermore supplemented by potential raw material sources that are mapped on the basis thereof (ZAVŘEL 2003; BOHÁČOVÁ 2003a), and the attempts for the reconstruction of surrounding landscape (BŘÍZOVÁ 1999; ČULÍKOVÁ 2003; MLÍKOVSKÝ 2003).

Occupation of the earliest phase of the Early Middle Ages in broader surroundings of the site is attested by the discoveries of pottery of both the Prague type pottery and the Old ‘Hillfort’ Period in the adjacent regions of Čelákovice (Zápy, Káraný-Ostrov, Čelákovice-Sedlčanky, Otradovice and Toušeň; PROFANTOVÁ/ ŠPAČEK 2003) and Mělník (ADČ at the Institute of Archaeology Prague and unpublished database ALRB⁵). The settlement development in following phases of the Early Middle Ages has not yet been systematically mapped. Its general overview can be obtained from entries of the Archaeological Database of Bohemia (ADČ) built continuously by the archive of the Institute of Archaeology at the Academy of Sciences of the Czech Republic at Prague.⁶

5 ADČ – Archaeological Database of Bohemia, see http://www.arup.cas.cz/cz/archivy/archeo_dtb_zech.html, ALRB – Czech-British project Ancient Landscape Reconstruction in Bohemia (further KUNA 2001).

6 It is a general rule that the quality of these data is different, directly proportional to the qualification stage and responsibility of the authors of the entries, depending on the type of their specialisation and it is charged by a high ratio of subject-

4.1 Cemeteries in the broader hinterland of Boleslav

Burial evidence is one of the most important components of the settlement study since it represents a source of basic information about its chronology, intensity and structure. The review of cemeteries follows above all the catalogue collected by J. SLÁMA (1977). Furthermore, it is supplemented by a significant discovery of an early medieval cemetery at the north border of the municipality of Zeleneč (City Museum of Čelákovice 1997, 2004, 2005; ŠPAČEK/ SNÍTILÝ 2005) that was not so far published in detail; and scattered and uncertainly dated graves continuously increasing in number in Brandýs nad Labem cadastre (TURKOVÁ-DRESLEROVÁ 1987, 20; TOMKOVÁ 1998, 15).

So far, the archaeologists dispose of 14 sites with burial evidence (Fig. II.a); however, half of them are uncertain or isolated finds. Since neither of these cemeteries relates to a sacral building, they most probably do not represent church cemeteries. An exception could be the position Na nižším Hrádku relating to the church of St. Laurentius in Brandýs nad Labem. However, the circumstances of the grave discovery attributed to this site are not standard and

divity, just as in case of another databases of this type (e. g. the Polish AZP). For enabling me the electronic version of ADČ and the entries of the database ALRB for given territory I thank M. Kuna and D. Křivánková.

its dating to the Middle 'Hillfort' Period (TURKOVÁ-DRESLEROVÁ 1987, 20) is apparently doubtful. The church is dated to the 13th century and there was so far no attention paid to its possible early medieval origin.

The earliest burials come from the Nehvizdky, Dřevčice and Čelákovice – and according to the grave goods they shall be most probably dated to the period prior to the foundation of Boleslav. To the horizon corresponding with the rise of the Přemyslid stronghold belong the cemeteries known from Brandýs, Zápý and Zeleneč. Comparison of the funerary assemblages indicates that the cemeteries used during the Middle 'Hillfort' Period survived further on and at the same time the cemeteries network was densified. However, it is uncertain whether the situation was the same when the space around all the three early medieval churches in Boleslav was restricted for burials and intensively used. This can be verified only by detailed study of chronology of these church cemeteries. Some more exceptional objects as amber beads and a pair of silver grape earrings were discovered among the grave goods in Dřevčice, situated at the communication leading from Bohemia northwards, and in Zeleneč as well. Both sites could also be related to a trade route that in this case passed through the occupied left bank of the Elbe river and headed further to the east (after VÁVRA 1972 through Nehvizdy to Sadská). Material variability of the relatively numerous pottery grave goods clearly illustrates the intensive contacts of local community to its closest surroundings.⁷ Cemeteries represent one of the significant evidence of settlement continuity of the investigated area during the Early Middle Ages. The graves on the territory of Brandýs n. Labem and the nearby Vrábí are dated according to the published material (SLÁMA 1977) at least partly into the Middle 'Hillfort' Period and thus emphasize the role of this area in the time of the earliest development stages of Stará Boleslav.

4.2 Archaeological relics of settlements from the Middle and Late 'Hillfort' Period, and isolated finds

a) Settlement evidence *in situ*

Possible evidence for settlement use of the space directly adjoining the continuously occupied area of

the Boleslav stronghold were obtained by rescue excavations of the site only at two positions (Fig. II.b, d). A sand-clay layer sequence about 40 m long and 50 cm thick with an intermittent addition of loam, burnt arenaceous marl, tiny sandstones and with pottery fragments was documented in the inundation area of Elbe river (Hluchov in 1988, elevation point 168,23 m ASL). Its origin is unclear since this location could have been often flooded. Some fragments of early medieval pottery come also from a layer detected some hundreds of metres to the east of the edge of a river terrace, inside an intensively occupied area (BOHÁČOVÁ 2003b, 461–462, Fig. 4). In the vicinity, the above mentioned vessel from the Late 'Hillfort' Period that relates to the burial practice (SLÁMA 1977, 153: 186B; ŠPAČEK 2003, 33), was discovered.

Various types of fortified sites can be detected throughout the whole investigated area (Fig. II.c). The nearest distinctly fortified site is the Vnoř hillfort lying approximately at half distance between Prague and Boleslav. This hillfort belongs to the later stage of the early medieval development horizon of the Prague hinterland (SLÁMA 1988, 62–64; RICHTEROVÁ 1997, 530). Fortified site Na hradištku (= *on the small hillfort*) in Toušeň cadastre (PROFANTOVÁ/ ŠPAČEK 2003, 372–374) can also be regarded as a stronghold with settlement traces from the Early 'Hillfort' Period onwards. The evaluation of this site significance, of its position within the settlement structure and its relation to the Přemyslid stronghold in Stará Boleslav remains one of the so far unanswered issues in study of the investigated area. Its solving is complicated by a constantly increasing number of actions of the rescue archaeological research (conducted by the City Museum of Čelákovice) caused by construction activities in the built-up area of Toušeň (review of research until 2000 ŠPAČEK/SNÍTILÝ 2005, 389–404). Another two fortified sites of lesser extent are supposed in Brandýs nad Labem cadastre lying above the mouth of the Vnořský stream and both are named Hrádek (= *the manor, small fortified residency*). To Hrádek on the right streamside, named Vyšší Hrádek (Vyšší = *higher*), pertains the parish church of St. Peter, on the opposite side lies Nižší Hrádek (Nižší = *lower*) with the church of St. Laurentius. The southern fortified site with the local name Na Hrádku was considered hillfort already by V. L. Píč (1909, 363). However, this idea was repeatedly rejected (GUTH 1934, 815, note 42; SLÁMA 1988, 68). K. KUČA (1996, 216) associates the mentioned Hrádek with a fortified site depicted on a veduta from 1640 to the southwest of chateau Brandýs; nevertheless, this picture does not correspond to the overall topographic situation of the site. The same author regards both exposed sites lying at the mouth of the Vnořský

⁷ The finds are not yet processed and published in detail but the general public had the opportunity to see them during a short-time exhibition in the City Museum of Čelákovice in 2005. The abovementioned statement is based on a preliminary macroscopic comparison of grave pottery from Zeleneč with pottery wares distinguished in the material coming from the excavations at Stará Boleslav and was compared with the Prague, Boleslav and Libice production spheres. The ceramic vessels assemblage from Zeleneč cemetery represents a significant source for our understanding of pottery distribution within the Central Bohemia.

stream as protective sites on a long-distance route passing through the stream valley and the Elbe river. However, there are no archaeological traces of fortification at these sites. An identical type of fortified residence could exist at a site bearing the identical name Hrádek that is situated in more distant Čelákovice (ŠPAČEK 1997). In the Mělník region, just beyond the border of the investigated territory another possible settlement with the early medieval fortified (at least in later development phase) site could be found at Přívory (PROFANTOVÁ 2002). Similar statement as in the case of Toušeň could be applied also on this site. From recent excavations of early medieval settlement structures (Institute of Archaeology Prague, M. Kuna, personal communication, unprocessed, unpublished; partly presentation of the finds from Tišice in the exhibition of the District Museum in Mělník in May, 2006) as well as from the concentration of other finds in its surroundings and above all at the Košátecký stream (Figs. IV–VI) is obvious that the area including the above mentioned settlement had a cardinal and formerly unforeseen significance for the history and development of the early medieval occupation of given part of the Elbe basin.

Unequivocal evidence of settlement activities preserved in the form of intact layers are not very numerous in the investigated area around Stará Boleslav (Fig. II.d), and they concentrate at the sites of Brandýs, Dřevčice, Zápy, Podolanka and Vnoř. However, their medieval origin is attested also by another type of sources. The significance of Brandýs territory is indicated by repeated and so far not comprehensively evaluated finds from various locations in its cadastre, including both mentioned sites named Hrádek (= *manor*). From Hrádek on the left bank of the Vnořský stream settlements from the 2nd half of the 10th century are announced (TURKOVÁ-DRESLEŘOVÁ 1987), and registered in ADC as from the Middle 'Hillfort' Period, while the ones of the Late 'Hillfort' Period are already mentioned by K. GUTH (1934, 815).

b) Occupation detected through field walking survey

The middle Elbe basin represents a territory where systematic field walking survey have been performed twice since 1986 (KUNA 1998a, 1998b, 2001).⁸ The spatial distribution of sites with the early medieval occupation registered within the framework of ADC clearly illustrates that their network got distinctly denser due to the surface artefact survey in given region (Fig. III; during the first stage the border of the investigated area passes along the western edge of Toušeň cadastre and the southern edge of Stránka cadastre).

Similar statement could be also applied to the second stage of the analytical field walking survey in a transect intersecting the Elbe basin (Figs. IV and V; details of the territory investigated during the second stage is roughly defined by the spread of symbols mapping the occurrence of pottery dating from the beginnings of the High Middle Ages). The point cluster that represents particular sites identified in the area overlapping with the area of the project interest (in the first stage – Fig. III) or with the distribution area of pottery from the given period (in the second stage – Figs. IV and V) thus represents distinct demonstrations of the above-mentioned archaeological activities.

The chronology of sites identified during the first stage of survey was characterized by a fixed dating designation – the 'Hillfort' Period used for the needs of data archiving in ADC, i. e. by a term comprising in a generally used periodisation all periods of the Early Middle Ages except for the Early Slavonic Period. Surprisingly low number of sites with intense early medieval occupation as well as their complete absence mainly in the large investigated polygons in Brandýs and Popovice cadastres clearly emerge if the results of the first stage of survey are more closely observed. Furthermore, some more significant Early Middle Ages occupation generally without precise chronological determination – approaching or exceeding 25 fragments per collection hour – was detected only at several sites in the cadastres of Brázdim, Dřevčice, Podolanka, Ostrov and Zápy; and from the more distant sites at Sluhy and Vnoř can be named (further KUNA 1998a). This phenomenon is maybe partly explainable by a bias of the early medieval occupation to the built-up area of the present municipalities and the free landscape.

The second stage of the survey was performed as a systematic analytical surface artefact survey (for the methods used, see KUNA 1998b, 2001), when the landscape transect under study was divided into sectors. Within this transect randomly selected polygons were covered by survey. The polygons were further divided into squares of 1 hectare in size. In each investigated square the number of discovered material from particular prehistoric and historic periods was registered. The finds dated into the Late 'Hillfort' Period at most create remarkable concentrations at several places (Fig. IV). In the vicinity of Boleslav mainly three sites were detected. The first is situated approx. one kilometre to the north of the Přemyslid stronghold on an elevation (170 m ASL) surrounded by one of the Elbe meanders. The second adjoins the municipality of Dřísy from the north and another one, less notable, documents the early medieval occupation in the area of the nearby Ovčáry. Other pottery fragments are registered more or less at isolated sites that are scattered throughout the whole

⁸ The second stage of analytic surface prospection had been realized within the framework of broader project ALRB and it is not part of ADC.

investigated area, more distinct concentration occurs only in the southern part of the Mělník region. Some of the isolated sites with finds originating from the Late 'Hillfort' Period are in several cases emphasized by the occurrence of pottery dated to the immediately following period, i. e. the earlier phase of the High Middle Ages. That's e. g. the case of a large area with pottery designated as VS1 (13th century) lying between Brandýs and Zápý (according to the map of stable cadastre in the year 1842 the place was called V šancích and had a church of St. Linhart) and a site situated at the edge of a terrace located to the north of the municipality of Borek. However, the results value obtained during the second stage of survey is limited by extent of investigated areas and their random selection. While the areas with numerous pottery fragments indicate in this case quite certainly occupied sites, the absence of finds does not to be an evidence of unsettled territory.

c) Isolated finds (Fig. II.e)

Category of isolated find is represented above all by a hoard of more than one thousand Přemyslid and Slavnik silver coins from the last third of the 10th century. It was deposited in a bottle and buried on the right bank of Elbe river to the south of supposed river passage (SKALSKÝ 1932). Usually, this discovery is connected with trade activities (SLÁMA 1988, 50). Another isolated find dated to the Early Middle Ages are BUCHTELA'S (1934) kilns that are generally connected with pottery production (location Spálené pece = *burnt up kilns* about 2 km to the north of the fortified site). Credibility of this statement, however, is doubted since the present state of knowledge claims that no such production devices were located in Bohemia in the given period.

d) Evaluating the archaeological evidence of settlement activities

Under the current state of our knowledge, a comprehensive evaluation of documented settlement activities is still premature.⁹ For evaluation of the settlement character, structure and intensity as well as its development in time and space it is necessary to analyse the sherds obtained both by destructive and non-destructive research methods. Nowadays, this procedure can be already based on the first results of macroscopic and microscopic analyses of pottery production from the area of Boleslav stronghold. Thus, the pottery and related occupation would be divided into narrower time horizons and pottery finds can be assigned to certain material groups, some of which

can refer to different ceramic production spheres of the Central Bohemia (BOHÁČOVÁ 2003a). Any attempt for synchronisation of the settlement activities and recording of dynamics of the occupation processes on investigated territory can emerge only from results of such analysis.

According to the available sources, particularly from the earlier part of the Early Middle Ages, when the settlement is supposed to have a scattered character; any settlement observations should be predominated by the area extent rather than the occupation intensity and identification of a concrete settlement in space and its chronology. Model of distinct components that tried to solve this problem for the prehistoric material obtained during the first stage of survey, and which predicts the cores and peripheries of settlement areas on the basis of number of discovered pottery fragments (KUNA 1998a) can not be applied on the investigated area for the Early Middle Ages for the above mentioned reasons. On the contrary, sites with a concentrations of early medieval pottery detected in a sectors investigated within the framework of the project ALRB could be used as indications of particular settlements.

However, at least some preliminary conclusions can be drawn from geographic distribution of sites with the early medieval occupation (Fig. III-V): the early medieval occupation concentrates above all along the water flows of lesser and higher rank, it follows the significant flowline between Prague and Stará Boleslav and the repeated chaining of occupied sites on the left-bank edge of the floodplain is also noteworthy. The issue of the floodplain settlement remains the topic of future research. Until recently, the settlement density seemed to be the lowest just in the closest surroundings of Boleslav; however, this picture can be affected by the state and intensity of research but also accessibility or inaccessibility respectively of major part of the left-bank of Elbe by the present Brandýs nad Labem.

Broader surroundings of Stará Boleslav belong among areas exploited already by the first Slavonic inhabitants of Bohemia, and an increasing intensity of the early medieval occupation is obvious mainly on the left bank of Elbe and on concentration of settlements at the edge of the Elbe terrace on both riversides. The settlement evidence in the area to the northeast of Boleslav remains rather sporadic and corresponds to the opinion defined by J. SLÁMA (1967, above all Fig. 136) that it is a permanently wooded region, unsuitable for settlement.

4.3 Natural environment from the view of archaeobotany and archaeozoology

Summary of the previous botanical analyses of macroremains and pollen was recently offered by ČULÍKOVÁ (2003).

⁹ Most available pottery comes from the project of surface prospecting of the interest territory on the left bank of Elbe that was oriented on solving completely different scholar issues. Author of this project himself points to an insufficient processing of early medieval pottery (KUNA 1998a, 294).

The character of geological deposits in the Elbe floodplain terraces is not very favourable for preservation of plant remains including pollen grains; therefore, the possibilities of their investigation are very limited. Only environment of the Elbe branches filled with soil could offer different conditions and yielded some samples exceptionally rich in organic components. According to E. BŘÍZOVÁ (1999), the river branches were filled during the earlier phase of later Subatlantic, within a time span 500/700-1200 AD. Also results of archaeological excavations do not exclude this dating since a layer of prehistoric fragments was detected at nearby site below bog sediment hidden under approx. 160 cm of sand.

According to pollen diagrams for the early medieval period in the surroundings of Boleslav, the most frequently occurring wood species was pine, followed by alder, spruce and birch. The pine-oak forests with a high ratio of birch existed on elevated sandy sites on the right bank of Elbe, while the river flow was flanked by floodplain and alder forests. According to E. BŘÍZOVÁ (1999), the floodplain forests had been considerably reduced already in the early Subatlantic. The pollen analysis indicates that the wood component got reduced by more than 50 % in the Early Middle Ages and the highest decrease ratio falls to pine. The herb component in pollen diagrams from two river branches filled with soil located at the edge of the Elbe floodplain to the north of Boleslav consists of plants indicating antropogenic activity and wetland, meadows, and grassland species. Presence of ferns and peat moss that was also documented would enable the reconstruction of forests or bogs. However, possible radius of pollen grains up to tenths of kilometres should be taken into account for some plant species (for peat mosses quoted by GOJDA/ SÁDLO 2005, 96).

According to V. ČULÍKOVÁ, the results of botanical macroanalyses in this area show so far no evidence of distinct reduction of natural associations of hard floodplain forests (represented by oak, ash, alder, elm, maple and viburnum) or herbal wetland biotopes in the early medieval period already. In the macroremains analysis of a sample from an identical the Elbe branch lying about one kilometre to the north of the settlement area the synanthropic species indicating deforestation were detected only by a slender amount. However, besides the representatives of wetland plants also the presence of wet meadows species was recorded (ČULÍKOVÁ 2003, 373–374). But above all weeds and ruderals identified in samples from the inhabited stronghold area document a high degree of anthropisation of the site that lies in a landscape used for a long time for agriculture (ČULÍKOVÁ 2003, 374). The ratio of forage transported possibly from a longer distance than the immediate

surroundings of the site cannot be appreciated with regard to present botanical material.

According to the results of both types of analyses, the extent of woodless landscape can be specified only approximately, the considerable decrease of wood component is significant, yet it represents only a relative indicator of deforestation process. The traditional hypothesis of deep forests around Boleslav on the left bank of Elbe river (SLÁMA 1988, 55) is not corroborated by the above mentioned results documenting the occurrence of fields, meadows and grassland in close vicinity to Boleslav. It also does not correspond with the conclusions of archaeozoological study (MLÍKOVSKÝ 2003) recorded animals typical for open landscape in the skeletal remains. This statement can obviously be related only to the area in immediate reach of the fortified site, since the more distant locations could have been continuously forested. Sufficient volume of deforestation of the left bank of Elbe river that is perceived as a traditional agricultural region, is usually not doubted.

4.4 Raw material sources

The basic need of raw materials utilized in the early medieval Stará Boleslav for building, handicraft processing or for another necessary activities of the inhabitants could be apparently covered in sufficient scale and amount by natural sources in its close or more distant vicinity.

The hypothesis that is deducible from preceding analyses (ČULÍKOVÁ 2003; ZAVŘEL 2003) can be applied mainly for utility wood, stone and plastic loamy clays or loams. Raw materials used in metal processing have not been studied yet. The identification of exploited ore deposits seems to be difficult (HOŠEK 2003, 290) and iron concretions that could be used for iron production are known also from the Elbe alluviums (ZAVŘEL 2003, 286), and were probably transported by the river from several places. Sources of other raw materials origin used for processing of non-ferrous and noble metals and glass melt as well are not known yet (BOHÁČOVÁ 2006; BLÁHOVÁ 1996).

According to the analysis of botanical macroremains, commonly used wood species occur in necessarily specific representation in surrounding floodplain growths, in the case of Stará Boleslav right bank were followed by pine-oak forests. Pine is also the most frequently find in both types of analyses. In case of need of a high-quality utility wood (e. g. timber) could be simply transported from remote locations down the Elbe.

According to J. ZAVŘEL (2003), the most accessible building stone was sandstone. Its outcrops on the opposite bank of Elbe river were designated as potential material for building of the unique defensive stone construction

at Bolestav in the 10th century (ZAVŘEL 1994). Sandstone was also utilized in following centuries, above all for sacral architecture and for production of tiny implements or other artifacts; and it was furthermore roughly manufactured into the shape of grave steles. The occurrence of arenaceous marl (a. o. the facing stone wall of primary fortification) can be detected since the very beginning of the Boleslav stronghold. It was preferred building material particularly after the canonry foundation (mainly for the construction of basilica, and pavements). Arenaceous marl as a material of unlocal origin had to be transported from longer distance. The nearest quarries of this raw material are located by Zavřel at Lysá nad Labem, further upward the Elbe, small outcrops less suitable for building purposes, and also in the area delimited by the sites of Brandýs – Toušeň – Zeleneč – Mstětice.

Another source of stones utilized above all for making small artifacts was the alluviums of Elbe and Jizera. River stones accumulate heat and due to this specific physical property they were frequently used for coating of fireplaces. They could be obtained according to the relevant geological conditions also on the adjacent left riverside. However, their occurrence was not so far approved there, and thus, the transport from the more distant Prague region can be hypothetically considered.

Loamy clays and loams used in Boleslav for pottery making, producing technical ceramics (gutters, tiles), and small articles (spindle whorls, loom weights etc.) as well as for building (masonry bond, coatings of wooden constructions) were obtained from the Elbe branches filled with soil. For the Early Middle Ages, it is documented by a sample taken from the branch in the immediate north neighbourhood of the stronghold fortification (BOHÁČOVÁ 2003a; ZAVŘEL 2003, 387–390). Brick clays had been exploited at several locations (with toponyms such as V cihelně, Nad cihelnou) to the north and south of Boleslav still in modern times (SCHWARZ 1959). In this context, it is worth noting that the above mentioned and so far unverified find of supposed pottery kilns are situated several hundreds of metres away from the still visible relic of an Elbe river branch.

5. Geography and toponomastic

Current research generally accepts the assumption about of Stará Boleslav location at a significant trade route called Žitavská (after the German town Zittau). This route led from Prague further northwards to Lusatia and scholars usually prefer its passing through the Jizera basin rather than the transit through the alternative Mělník region (cf. VÁVRA 1974). However,

the first mention of this route is attested only in Thietmar chronicle in 1004. Since the northern part of this route was very probably hardly passable at that time, its common use can be supposed probably as late as in the latest Early Middle Ages (Thietmar VI, 14; VÁVRA 1974). However, another route European significance passed through the Elbe basin facing north or northeast; it was called the Polish route. Its main line is generally sought on the left bank of the Elbe and its earliest track is usually led from Prague through Nehvizdy to Sadská (VÁVRA 1972, 8). The considered right-bank course of this communication could make the best of the more favourable conditions for an alternative passage through the Elbe. Precisely this spot (with more restricted width of floodplain) was selected for the foundation of a fortified site. However, locating a communication network, whether of local or of long-distance significance, in cultural landscape permanently and densely settled and intensively exploited not only during the Early Middle Ages but also in the previous prehistoric periods, is rather a matter of some possible solutions than of exact proves. The transport of passengers, raw materials etc. was undoubtedly facilitated by the Elbe flow, and this fact was also corroborated by the information of other types of sources.

Among the local names occurring in the hinterland of Boleslav, some names still bear witness of the landscape use modes in historic period. In the Elbe floodplain repeatedly occur denominations derived from water in connection that document their possession by the canonry (e. g. proboštská tůň, Probošťák, Za proboštskou loukou; probošt = *provost*). One local part of Brandýs is named Královice (král = *king*), and although it is not mentioned by Profous or Sedláček, according to the general toponomastic rules it could indicate a settlement inhabited by king's men; however, recent encyclopaedic investigation lays the foundation of this village as late as in the 18th century (KUČA 1996, 217). Latter exploitation of forests to the east of Boleslav is documented by local names appropriating a forest or meadow to the emperor. The position Na vinici (= *in the vineyard*) clearly illustrates particular agricultural activity in the cadastre belonging to Ostrov, a settlement belonging the Strahov monastery. However, no chronological significance can be obtained from these names without further evidence or research.

Names related mostly to a specialized activity within a service organisation appear only at a longer distance from Boleslav, and in a relatively small number. Dehtáry (dehtář = *tar producer*) and Sluhy (sluha = *servant*) are situated within the range of Prague agglomeration whereby the latter village is at the beginning of the 13th century already in possession of aristocracy. Villages

called *Ovčáry* (*ovčák* = *shepherd*) and *Kozly* (*kozel* = *buck*) are to be found in the Mělník region, to the east of Dřísy. Although T. LALÍK proposed a relation between *Ovčáry* and the shepherd given to the canonry (1963, 416), this relation is by no means provable. However, the pottery from surface collections clearly exemplifies the unequivocally early medieval origin of the village. *Kozly* or better one servant person from this village given together with his sons was also mentioned by the deed but these people were assigned to perform *ad agenda queque negocia* (BLÁHOVÁ 1996, 6). Thus, any indication of a possible relation between their occupation and the toponym is missing. A possible relation between the village *Dehtáry* and the tar producers mentioned by the foundation deed that was given together with the forest to the Boleslav canonry was not appraised yet; in topographic dictionaries is the name cited only on a general level. Names of relocated settlements were not recorded within the investigated area.

6. Summary – questions of reconstruction of the hinterland of Stará Boleslav

6.1. Topography and settlement structure, and the hinterland definition in time and space

Hinterland is usually understood as a geographically delimited territory that represents an area necessary both to ensure needs and secure functions of a particular settlement unit, with convenient qualitative, quantitative characteristics, human and natural potential. The general sense of this word naturally comprises also the immaterial component of such support in the form of immunities, donations or gifts. In historiographic studies it is mostly the economic hinterland adjacent to the investigated site. At central sites of the Early Middle Ages the hinterland extent probably differed and changed in time according to the increasing occupation density, the rise of other central sites, social changes and variously operating economic systems influenced by external encroachments or also by forced resettlement. Can be recorded and more precisely defined the immediate economic hinterland of Boleslav as a Přemyslid stronghold and after the foundation of canonry as a significant clerical centre?

On a general level, natural conditions and the position within the power structure, i. e. natural environment, distance or closeness of the land capital or distribution of central sites and density of communication network, can be regarded as substantial factors affecting the extent and intensity of the hinterland occupation.

The Přemyslid stronghold at Stará Boleslav consisted of two components: inner fortified area of about 4 ha and outer, intensively occupied area of 11 ha, where the fortification has not been proved yet. Unequivocal

evidence of such settlement concentrations that could be described as the early medieval settlement agglomeration as is known from several Bohemian centres of primary significance is so far lacking in the vicinity of Stará Boleslav. However, it can be also caused by the current state of research since from the evaluation of the available sources is clearly visible that such complicated settlement formation could have existed around the Přemyslid stronghold (Fig. VII). But the generally unequivocal traces of settlement activities of the early medieval period on Brandýs cadastre (Fig. VII. 1-3) and also at Stará Boleslav (here above all Fig. VII. 6) must be reevaluated and their chronological relations have to be redefined.

The extent and character of economic hinterland of Stará Boleslav were always influenced by several factors, namely by the natural environment in the immediate vicinity of the fortified centre situated on a projecting into the floodplain and by the position of Boleslav within the reach of the capital of Prague; and at the same time at a long-distance trade route passing through Prague. The hinterland of Stará Boleslav was furthermore geographically limited by the neighbourhood of the nearby Přemyslid strongholds at Mělník and later at Mladá Boleslav. The settlement-usable area outside the fortified site itself could be found either on a partly wooded plateau on the right-bank that opens to the northeast beyond the floodplain edge or in the traditional occupation area on the left bank of Elbe river.

Actual settlement picture of the hinterland during the early medieval period and its development stages necessarily depends on the state of our knowledge. The spatial distribution of the located archaeological sites in the vicinity of Boleslav clearly shows that among the arrangement factors belongs on one side the intensity of archaeological activities (the polygons of the surface collecting project and the building activities), and the accessibility of field prospecting on the other side. Fragmentarity of our knowledge and hypotheticality of some formulated considerations represents another factor influencing interpretation of the archaeological data. However, despite the given limits it is possible to draw some conclusions concerning the occupation nature of investigated area in wider surroundings of the Přemyslid stronghold:

- although the settlement evidence from the time prior to the foundation of the Přemyslid stronghold is not numerous, it is known from the whole investigated area and are more abundant at the Elbe and Jizera rivers;
- the early medieval settlement concentrates near water flows of both the highest and lower ranks, and even at smaller water flows (Čelákovický, Zelenečský, Vinořský streams, south tributary of Poleradský

- stream and Mratínský stream); the point network of archaeologically registered activities creates small settlement chambers or linear structures near water flows including the edge of the Elbe floodplain (cadastrs of the municipalities of Zápý, Ostrov, Brandýs nad Labem, Dřevčice, Brázdím, Polerady, Vinoř, Sluhy);
- more frequent traces of the early medieval settlement accompany the communication flowline between Prague and Boleslav;
 - settlement continuity of the sites is documented since the Middle 'Hillfort' Period by the cemeteries in Dřevčice, Brandýs and Zápý (another cemeteries of identical age are registered in Čelákovice, Nehvizdky and Zeleneč, lying on a territory not investigated through systematic surface collections);
 - distribution of the known cemeteries from the Middle 'Hillfort' Period reflects the traditionally occupied area, the settlement densification process and most probably also the arrangement of long-distance and local routes network;
 - the majority of sites bearing usually names of the abovementioned cadastrs are at the same time recorded already in the early medieval written sources or during the 13th century (cf. Fig. I: Hrádek – cad. Brandýs n. L., Zápý, Ostrov, Dřevčice, Popovice, Brázdím (?), Vinoř, Sluhy) or some monuments of early medieval architecture is preserved there (Dřevčice, Čelákovice, Vinoř, Sluhy, hypothetically Hrádek);
 - the early medieval settlement covers the whole investigated area and continuously proceeds beyond its borders;
 - more distant sites and churches concentrate within an outer zone approx. 6-8 km away from the fortified site; regarding the spatial definition of the Boleslav hinterland the distance of 8 km seems to be some sort of border since approx. on this line or beyond it some sites that could be designated as centres of lower rank (mainly Vinoř, Čelákovice, among the more distant sites probably Stará Lysá, or Přívory) were located, together with several significant cemeteries (Nehvizdky, Zeleneč) mentioned above. Furthermore, it represents a boundary region of the hinterlands of Prague or Mělník. Thus, it is clear that this area cannot be assumed as the immediate economic hinterland of the Přemyslid stronghold. However, during the existence of the canonry dues flow and is delivered in various forms from some of parts of this region;
 - the settlement activities that can be seen as manifestations of functional hinterland of the Přemyslid stronghold can be delimited by a circle of about 4-5 km radius; thus, this area can most probably correspond with its immediate economic hinter-

- land, both in the period of the 10th and the first half of the 11th century and also after the foundation of canonry (Fig. VI). The most proximate parallels represents the area of maximal settlements concentration in the hinterlands of some Polish centres (MOŽDZIOCH 1999, 37, Figs. 6, 7) and a similar situation is also attested by a model considered for the hinterland of Great Moravian centres in the Dyje and Morava basins (MACHÁČEK 2005);
- the proposed theses can be applied mainly on the left bank of Elbe and on the right-bank edge of the floodplain. The more distant isolated finds from the right bank cannot be evaluated and their small number can be influenced by a low probability of archaeological discoveries in the heavily wooded territory; however, the proposed continuous forestation of the right bank of the Elbe in the Early Middle Ages need not to be fully corresponding with the historical reality;
 - the evidence of particular types of historical sources in its total clearly documents a significant and so far underestimated role of the early medieval occupation in the area of today's Brandýs nad Labem that could create together with other newly archaeologically registered settlements in its vicinity as well as in immediate neighbourhood to the Přemyslid stronghold particular components of a more rangy and formerly unexpected settlement agglomeration. Verification of this hypothesis should be proved or excluded by the reevaluation of the existing sources.

The historical sources clearly show that the Přemyslid stronghold was founded in a densely occupied and intensively agriculturally exploited region, while the foundation deed of the Boleslav canonry and also other scripts documented this fact as late as for the time after the canonry foundation. An earlier, early medieval origin of many still existing sites that are mentioned in later medieval sources as *villa* can be proved for some of them by various types of sources; however, in other cases it remains a pure hypothesis. Written sources along with the Romanesque architecture monuments clearly document simultaneous split of land property and its instability already in the latest part of the early medieval period. Moreover, the archaeology offers evidence of settlement continuity during the early medieval and the beginning of the high medieval periods and its evidence also illustrates the stability of communication system and the relative accessibility of basic raw material sources.

This so far not very distinctly structured picture corresponds with the idea of current historiography (ŽEMLIČKA 1997, 16; KLÁPŠTĚ 2005, 187–192) about a general view of rural occupation in the Early Middle Ages, since in traditional agricultural regions the settle-

ment consisted of scattered settlement units represented by clusters of several homesteads, with inhabitants mainly engaged in agricultural activities. Cemeteries that were understood as a different world of the deceased were situated within this system approx. 300-400 m away from the world of the living. The settlement units belonging to components of society from the opposite pole of the social hierarchy were represented in the Early Middle Ages by central sites with specific social-economic functions. In their vicinity, mostly a higher number of inhabitants was concentrated since their presence was inevitable for keeping the centre operating. Significant ratio those inhabitants represented people engaged in non-agricultural activities. The structure complexity of the established settlement agglomerations and their large extent was directly proportional to their historical significance influenced among other things also by their geographic position and the time span during which they played their role.

The so far unknown structure and development dynamics of early medieval occupation in the hinterland of the Přemyslid Stará Boleslav and its time-space relations can be detected above all by a more precise spatial definition, possible functional determination and mainly a detailed chronological classification of individual archaeologically registered settlements. This issue, just as the evaluation of the relation between settlement and burial areas, is the task for future archaeological studies. Among their substantial part also belongs the verification of possible existence of a more rangy settlement agglomeration in the immediate surroundings of the fortified centre.

6.2. Character of hinterland and its organisation

In the case of Boleslav, the primary sources relating to the nature of hinterland and its organisation are the written ones. From their analysis it is clear that the occupation around Boleslav was prevailingly agricultural and that since the mid-11th century the princely land in the Boleslav hinterland passed gradually over to the hands of selected clerical institutions or worldly holders. The other studied and so far not sufficiently evaluated sources contribute greatly above all to the knowledge of some components defining the natural environment of the hinterland and the activities performed there. However, better sources variety is available only for the Přemyslid stronghold itself, for cemeteries and several smaller centres that existed within the investigated area before the foundation of Boleslav and that were inhabited, according to the archaeological evidence, by elite members of the then society. The so far unknown also is the role of the settlement area in cadastre of the later Brandýs. The proposed picture of character and organisation of the hinterland

of the early medieval Stará Boleslav thus represents basic balance of the current state of research that should be in the future supplemented by still missing results of study of the above formulated issues.

Prevailing economic activity in the Boleslav agriculturally convenient hinterland was cultivation since botanical analysis (ČULÍKOVÁ 2003) documents the cultivation of common cereals (millet, wheat, rye, oat, buckwheat) and other products (from the oil plants poppy and hemp, from leguminous plants pea). Vineyards can be supposed in today's traditional viticulture areas of the Mělník region (at the southern border of Dřísý is attested a sovereign winepress), a local name in Ostrov cadastre (belonging however to the Strahov monastery) as well as the references to viticulture from other sites in the High Middle Ages (Dřevčice and Popovice in the 15th century) indicate the vineyards could have been founded also in close vicinity of Boleslav.

The intensive river activities evidence in combination with the results of archaeobotanical analysis indicates that the floodplain was very probably used for livestock breeding or some other activities bound on the landscape, including fishing. There were many suitable opportunities provided both by river flows and oxbow lakes of the Elbe, which are also documented in later periods by local names. Besides freshwater fishes (including backs) there could be some fishes of sea origin documented by archaeozoology (KYSSELÝ 2003) that exemplify also their migration to upper river flows. The extent of forestless landscape cannot be reconstructed more precisely since the floodplain forests bordering the Elbe could provide sufficient shelter for the wildlife animals registered among the finds from Boleslav by the archaeozoological analysis (MLÍKOVSKÝ 2003). Due to the rather high number of persons obliged to pay honey dues to the canonry, collection of honey seems to be a common activity. However, nothing can be said about the honey origin or the character of environment, where it was coming from. Also here, the scientific analyses could shed more light on the evidence but they are still exceptional. An example from Libice, close by geographic position, suggests the origin of honey in the meadow flowers of the Elbe basin (MAŘÍK/POKORNÝ 2006).

Among animals raised in the Boleslav hinterland belonged above all cattle, in lesser amount also sheeps, pigs, and exceptionally goats. The horse breeding is not documented but their possession and therewith also taking care of them was one of the significant and continuously secured activities. In the stronghold hinterland also poultry keeping was documented (mainly hen, documented goose), and their meat was commonly consumed in Boleslav but any evidence of keeping them directly in the stronghold area is missing.

As far as considerations about further handicraft activities within the hinterland are concerned, certain part of the inhabitants of agricultural hinterland was obliged to provide their services or works of any kind to the sovereign and later the canonry. However, any precise proves are missing. To a certain extent, the situation known from the area of the stronghold could serve as analogy. Within the unequivocally agricultural milieu apparently also some processing activities were taking place that are not documented in the stronghold. Very probably is e. g. the slaughter of breded livestock restricted for the supply of the centre. Butcher refuse was detected only among the bones used for strengthening the communications after the canonry foundation; in earlier contexts it was so far not detected (MLÍKOVSKÝ 2003). It seems also very probable that the production of frequently used bone artifacts was performed outside the stronghold. Inside is missing both the raw material and semi-products that would be unequivocally identified in the abundant assemblage of bone artifacts found. Likewise, grinding corn could have taken place in the hinterland of Boleslav because within the framework of up-to-now extensive research of the early medieval cultural layers there was no evidence found of the use of grindstones. In this context, the use of watermills can be also considered. Besides the absence of grindstones it could be corroborated by the fact that the miller profession is mentioned by the deed. Also the historians came to a similar conclusion (PETRÁČEK 2003, 62, 236–237).

Except for pyrotechnological operations and evidences of textile production there are no distinct traces of performed handicrafts coming from the stronghold area. Although the non-agricultural character of bailey is documented by the recent studies (BOHÁČOVÁ 2006), there still remain many activities that cannot be more specified, e.g. hardly some evidence of specialized implements can be distinguished in the large iron objects assemblage obtained from the research of Boleslav. In case of some activities that are mentioned by the deed it cannot be decided whether they were performed inside or outside the stronghold. Also the localisation of a market, whose existence during the Early Middle Ages is supposed, remains questionable. A denar hoard is sometimes used as a kind of proof for the market existence that is unequivocally attested in the written sources as late as at the beginning of the 14th century, namely in Brandýs on the left bank of the Elbe that still remained an enclave of princely property for a certain time after the foundation of canonry.

Besides honey collecting and tar production existed also other natural complements to agricultural activities performed in the Boleslav hinterland, such as exploitation of wood, clay, building stone and acquisition

of raw materials for metallurgy. Basic adjustment of materials probably took place close to their sources; however, their final processing then at the place of their consumption. The transport of a wide range of raw materials, whether exploited near the site or transported to the utilization place at a longer distance, together with the transport of slaughtered livestock belonged among the most energy and organization demanding activities.

During the canonry foundation, any distinct difference could be distinguished regarding the structure of the stronghold supply in the archaeological material from the site itself. In later stage, however, compared with the previous period, a distinct non-agricultural character of bailey is documented mainly by some more abundant traces of metal processing (iron metallurgy, non-ferrous metals, silver) and maybe glass melt processing. Thus, it seems that after the canonry foundation the handicraft activity would mainly concentrate in the bailey area. Most probably it is here that the numerous houses of craftsmen and other people securing the operation of canonry as well as of the princely grange should be located.

According to the written sources, the princely property share of the grounds in the vicinity of Boleslav was partly maintained. Furthermore, PETRÁČEK (2003, 64, 204) states that the Boleslav deed clearly documents the existence of some plots of self-employed yeomen obliged with payments or dues to the prince on the territory belonging to the Boleslav 'district'. Besides, the land cultivated at the expenses of the sovereign and newly also the canonry existed there. Numerous later predicates (PROFOUS 1954, 1949, 1951; PROFOUS/SVOBODA 1957) document a gradual rise of small landlords.

There is no doubt that securing the everyday operation of the centre and fulfilling the mutual relations between itself and its hinterland required a separate institution supervising this process, both before the canonry foundation and also later. Sharing of products flowing from the hinterland by the canonry and the sovereign, whose court most probably survived on the stronghold area also after the foundation of canonry, could also result at the end of the Early Middle Ages in a decrease of its political and power significance. This process very probably reflects a gradual economic downfall of the site caused by an identical economic efficiency and limited extent of hinterland as well. The economic interests of the newly established noble society that built up her manors in direct neighbourhood to the canonry estates almost certainly played an important role.

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