

AVARS IN THE 9TH CENTURY AD. THE STATE OF THE HISTORICAL AND ARCHAEOLOGICAL RESEARCH

Frigyés SZÜCSI*

Introduction

During the Early Middle Ages, after the fall of the Roman Empire in the provinces of Pannonia there were three nomadic empires of steppe origin in the Carpathian Basin. In chronological order: the Hun Empire, the Avar Khaganate and the Principality of Hungary. In this study we look at what happened to the culture of the Avar period, after the fall of the Avar Khaganate as a political organization, during the 9th century AD.

Historical background: *Avaria* during the 6–8th century

In 552 AD the Rouran Empire in Inner Asia was destroyed by the rebellious Turks.¹ This political event started a westward migration, and around 557 a new nomadic group appeared in the foreground of the Caucasus,² who called themselves Avars. It was the fastest long-distance migration in world history.³

They settled in the Carpathian Basin in 567/568, and established a multi-ethnic and multicultural nomadic empire. Their grave goods, the clothing items and the burial customs show different cultural influences. The cultural elements from the East, i.e. from the steppe, can be linked to the Avars

* Szent István Király Museum, Székesfehérvár; Institute of Hungarian Research, Budapest, Hungary; ORCID ID: 0009-0001-8331-7550; szucsi.frigyes@szikm.hu, szucsi.frigyes@mki.gov.hu

¹ Pohl, 2018, 36, 45–47.

² Nagy, 2011, 9.

³ Gneecchi-Ruscione et al., 2022.

or other eastern peoples of nomadic origin.⁴ The Merovingian-Germanic cultural elements refer to a group of possibly Germanic origin that maintained close relations with the western Merovingian world.⁵ The late antique cultural elements are the legacy of the descendants of the local Roman provincial population or of the Romanised communities settled from the Eastern Alps or Dalmatia.⁶ Several artefacts with Byzantine origin are a sign of the strong Eastern Mediterranean cultural influence or partially the legacy of Balkanic immigrants.⁷ Last but not least, the first Slavic groups arrived in the Carpathian Basin in the early Avar period.⁸

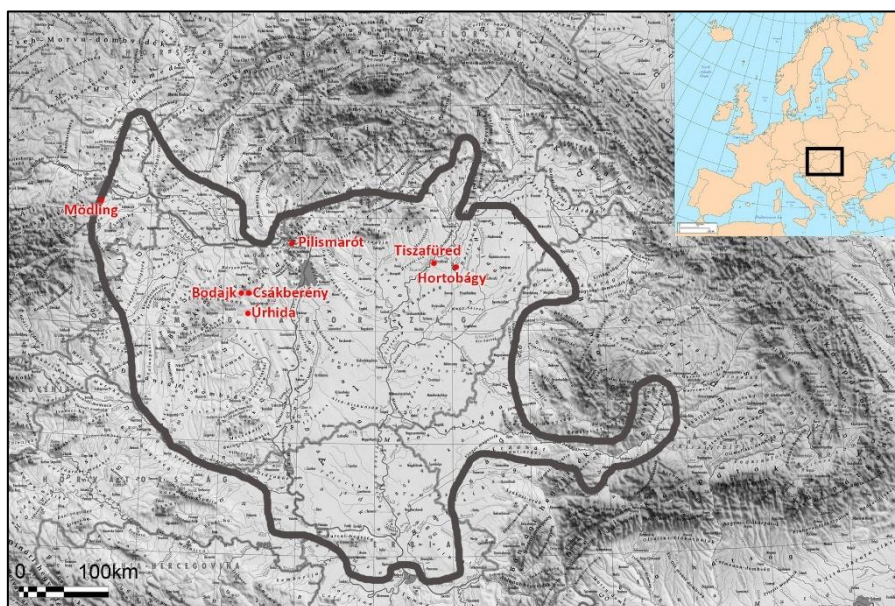


Figure. 1. The settlement area of the Avars during the Late Avar Period and the sites mentioned in this paper

By the 8th century, however, from this cultural diversity a unified late Avar culture had emerged throughout the Carpathian Basin (*Fig. 1*). The most important characteristics of the late Avar culture were horse burials, the

⁴ Gulyás, 2023, 701–756.

⁵ Vida, 2016, 258.

⁶ Vida, 2016, 258; Bajnok et al., 2020, 8–10; Müller, 2020, 89–90.

⁷ Garam, 2001; Müller, 2020, 94.

⁸ Istvánovits, 2001, 178–179; Pintér Nagy–Wolf, 2017, 149–150.

uniform Northwest–Southeast orientation of the graves, the cast bronze belt sets, which were the rank markers of freemen, the uniform jewellery-fashion of women, and the uniformization of ceramics.

The state of the historical research of the late 8th and 9th century

If we look at historical events, during the late 8th century, Charlemagne, the king of the Franks, engaged in war against the Avars. The first Avar-Frankish armed conflicts in 788 were followed by Charlemagne's personally led campaign against *Avaria* in 791. The campaign was a failure, and Charlemagne did not achieve his goal of defeating the main forces of the Avar Khaganate.⁹ In 795, a civil war broke out within *Avaria*, and the *khagan* and the *yugurru*s were killed. After that a Frankish-Lombard army under the command of Wonomyr pillaged the khagan's seat (*hring*) without resistance. In 796, Charlemagne sent his son Pippin with an army against the Avars, and the new khagan was forced to submit.¹⁰ However, in 799 we already hear of a rebellion. In 803, a Carolingian army was sent to Pannonia to restore order, and the *tudun*, the 'prince of the Pannonians' submitted to Charlemagne and was baptized.¹¹ In 805, the Avar khagan was also baptized and took the name Abraham, therefore Charlemagne restored the former power of the khagan. His dependence on the Carolingian Empire deepened even further. Till the end of the Frankish–Avar wars the Avar Khaganate ceased to be a sovereign state, and became a vassal of the Carolingian Empire.¹²

It has been a recurring topos in historical and archaeological works that Krum, khan of the Bulgars led at least one campaign of annihilation against the Avars in the early 9th century.¹³ However, many researchers argue that either Krum had never led such a campaign against the Avars, or even if he had, it could have been by no means annihilating.¹⁴ In 811, Avar auxiliary troops (mercenaries) helped Khan Krum to defeat the Byzantine

⁹ Bóna, 1984, 338–339; Szőke, 2014, 10–12.

¹⁰ Bóna, 1984, 341; Szőke, 2014, 12–14.

¹¹ Bóna, 1984, 342; Szőke, 2014, 16.

¹² Szőke, 2014, 21, 53.

¹³ Zlatarski, 1918, 26; Fülöp, 1978, 88; Bóna, 1984, 343; Dénes, 2012, 55.

¹⁴ Gjuzalev, 1966, 15–39; Makkay, 1994, 51–54; Mesterházy, 1977, 160, 162, 167; Olajos, 2004, 111–112; Katona-Kiss, 2010, 170–171; Szalontai, 2000, 283; Szőke, 2014, 18–19.

army.¹⁵ In the same year, Charlemagne split off the region between the Danube and Sava Rivers from the Avar Khaganate, and formed a direct Carolingian province by the name of *Pannonia(e)*.¹⁶ Consequently, the khagan definitively lost his authority over the former western territories of the Avar Khaganate.¹⁷

We know the last mention of Avar delegation at the Frankish Imperial Assembly from 822.¹⁸ After that, according to most historians, there is no more mention of any Avar power organization.¹⁹ Recently, opinions emerged, that the ‘Avar Kingdom’ existed up to 843 in the Carpathian Basin.²⁰ However, the cessation of Avar political organization in the second quarter of the 9th century does not result in the cessation of Avar identity, as evidenced by the sources below.²¹

The Legend of Cyril (Constantin) mentioned in connection with the so-called Venice Dispute of 867 that he argued to the Latin bishops in defense of preaching in the mother tongue, because the Avars, among others, prayed and had liturgical books in their own language.²² Terézia Olajos convincingly proved from the sources that the 9th-century Byzantines knew about the contemporary Avars.²³ She also emphasizes that in 870/871 a Christian Avar population engaged in agriculture lived in Pannonia, in the eastern border region of the Frankish Empire, according to the *Conversio Bagoariorum et Carantanorum*.²⁴ In 889, Regino of Prüm mentioned that the Hungarians arrived to the deserts of the Pannons and Avars (*Pannoniorum et Avarorum solitudines*) (Fig. 2). Samu Szádeczky-Kardoss convincingly argued based on the context that the word desert (*solitudo*) does not mean an uninhabited place, but a region inhabited by nomadic groups.²⁵ The Byzantine Emperor, Constantinos Porphyrogenetos wrote in his work *De Admi-*

¹⁵ Balogh, 2017, 231.

¹⁶ Szőke, 2014, 25–26; 2019, 166–171.

¹⁷ Balogh, 2017, 240.

¹⁸ Bóna, 1984, 349; Szőke, 2014, 43.

¹⁹ Pohl, 2018, 391–392.

²⁰ Szántó, 2021, 55; 2022, 5; 2024.

²¹ Szőke, 2014, 44.

²² Balogh, 2022, 175; Szántó, 2022, 8.

²³ Olajos, 2004, 112–113.

²⁴ Olajos, 2004, 113.

²⁵ Szádeczky-Kardoss, 1993, 231–233.

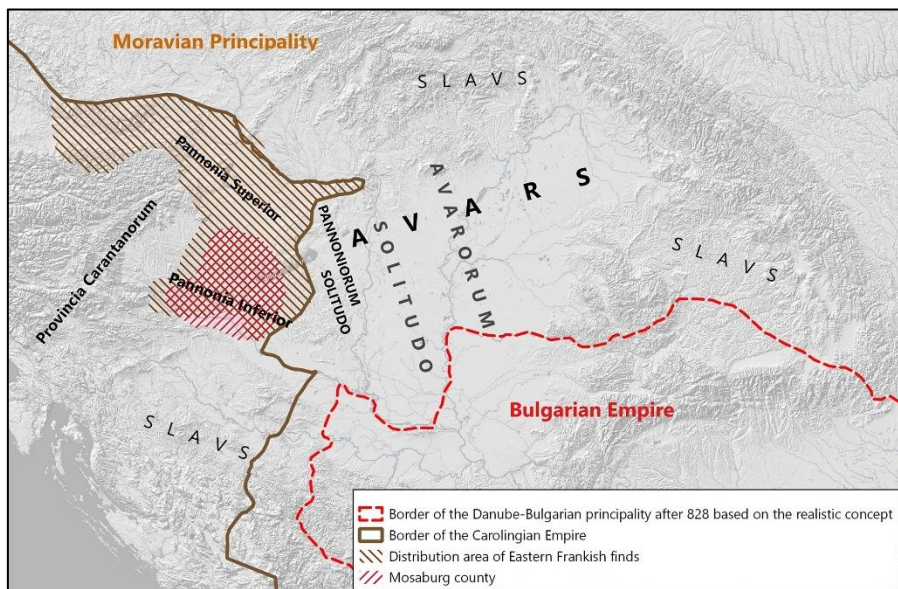


Figure 2. The Carpathian Basin after 828 AD (prepared by Teofil Rétfalvi after Bóna–Szentpéteri, 1996, 15; Szőke, 2014, Fig. 1; Takács, 2016, Fig. 1 and based on the plan of Frigyes Szücsi)

nistrando Imperio (DAI) in the mid-10th century that Avars are living in Croatia, whose Avar identity is still recognizable.²⁶

Based on the historical sources, we can assume the survival of the Avar ethnos after the fall of the Avar Khaganate (early 9th century) at least until the Hungarian Conquest (late 9th century) and in some regions (e.g. in Croatia) perhaps even afterwards. Consequently, the opinions based on linguistic data (mainly toponyms) about the complete “slavisation” of the Avars are certainly wrong.²⁷ Szabolcs Felföldi drew attention to the methodological fact that the lack of Avar toponyms may not affect the question of the survival of the Avars in the Carpathian Basin in the 9th century.²⁸ György Szabados argued on the basis of DAI that if the Avar ethnos was still recognizable in the Slav milieu of Croatia in the mid-10th century, then why would they have become Slavs in the rest of the Carpathian Basin already during

²⁶ Szabados, 2016, 632.

²⁷ Kristó, 1995, 141–147; Róna-Tas, 1995, 425; Györffy, 1996, 968; Nagy, 2017, 364; Pohl, 2018, 390–392.

²⁸ Felföldi, 2017, 220–221.

the 9th century.²⁹ Moreover, Ágnes Cs. Sós has already raised the possibility that we cannot exclude even the “avarisation” of Slavs in certain areas in the 9th century.³⁰ The process of “avarisation” is known from the late Avar period, for example a good part of the population of Mödling-An der Goldenen Stiege (nowadays: Austria) may have had similar ancestry as Slavic groups, but they shared Avar cultural habitus.³¹ From microregional archaeological and archaeogenetic research we may expect more detailed results about the 9th-century population of the former Avar Khaganate.

The late Avar culture in the 9th century: The state of the archaeological research

In almost all archaeological chronologies, the last phase of the late Avar culture was adapted to the historical events of the Avar Khaganate as a political organization.³² This is methodologically incorrect, because it is a “mixed reasoning”, and on the other hand, the disappearing of Avar identity did not follow the fall of the political organization, as mentioned above. József Szentpéteri³³ also warned about the problems of the 8th-9th century chronology based on the diagrams and maps of ADAM.³⁴ Today we still do not know exactly, in which region and for how long the latest phase of the Avar culture lasted after the fall of the Avar Khaganate.

We only have relatively exact 9th-century chronology for the western part of the former Avar Khaganate, for Western Transdanubia,³⁵ because this is the distribution area of eastern Frankish finds.³⁶ Probably only this area became part of the Carolingian Empire as *Pannonia provinciae*,³⁷ because we do not find any eastern Frankish finds or any traces of the presence of Carolingian culture in Eastern Transdanubia.³⁸ From the other parts of the Car-

²⁹ Szabados, 2016, 634; 2016a, 675.

³⁰ Cs. Sós, 1973, 80.

³¹ Wang et al., 2025, 3–4.

³² Szenthe et al., 2024, Fig. 1.

³³ Szentpéteri, 2006, 2017.

³⁴ Szentpéteri, 2002.

³⁵ Szőke, 2019, 418–455.

³⁶ Szőke, 2014, Fig. 1.

³⁷ Szőke, 2014, 44; 2019, 166–171.

³⁸ Szücsi, 2017, 183.

pathian Basin we do not have well datable finds from the 9th century (*Fig. 2*).

The possibility of continuous use until the 10th century has been raised for some cemeteries of the Avar Age, for example Tiszafüred-Majoros and Vörs-Papkert B.³⁹ So far, only one cemetery has been published outside of Pannonia, where it was proven, that it was used continuously from the late Avar period until the Hungarian Conquest period, i.e. from the 8th until the 10th century. It is the cemetery of an elite group in Hortobágy-Árkus published by Gergely Szenthe and Erwin Gáll.⁴⁰ The authors used radiocarbon dating in addition to the archaeological chronology to prove continuity. Based on the chronological model of the cemetery in Hortobágy-Árkus and a large number of radiocarbon dates from other cemeteries, a new archaeological chronology of the Avar age was suggested.⁴¹ In this new chronological model, the reconstructible lengths of the late Avar chronological phases are longer than previously assumed in earlier archaeological chronologies. According to the new model the last phase of the late Avar period ornate belt sets can be dated to the first third or first half of the 9th century (*Fig. 3*).

The new chronological results related to the jewellery also indicate a late Avar chronology that unfolds like an accordion. The horizontal stratigraphic observations and radiocarbon dating results indicate that some types of wire jewellery, mainly the multiple S-ended pendants (multiple S-terminated rings) and the spiral pendants, appeared in the Avar Khaganate much earlier than the turn of the 8th and 9th centuries.⁴² We have to reckon with their appearance at the latest during the early 8th century,⁴³ perhaps at the earliest in the last quarter of the 7th century.⁴⁴ The earliest occurrences are in Eastern Transdanubian region and around Lake Balaton, in a middle or late Avar cultural milieu. So, they were in use for a longer time, than the first

³⁹ Garam, 1995, 430; Költő–Szentpéteri, 2016, 161–162.

⁴⁰ Szenthe–Gáll, 2023.

⁴¹ Szenthe–Gáll, 2023, Fig. 115; Szenthe et al., 2024, Fig. 1.

⁴² Szóke, 1990–1991, 152–153; 1992, 850–852.

⁴³ Szücsi, 2023, 208–221.

⁴⁴ Mesterházy, 2023, 191.

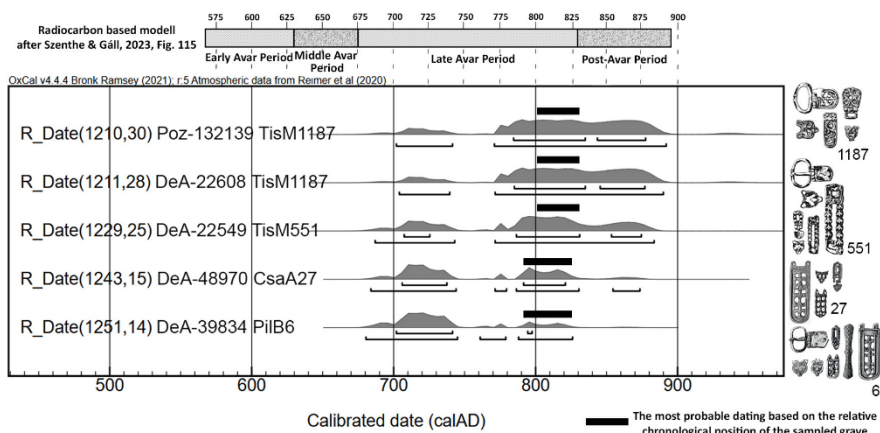


Figure 3. The radiocarbon-based chronological model after Szenthe–Gáll, 2023, Fig. 115, and the radiocarbon sequence of four graves containing belt sets from the early 9th century: Tiszafüred–Majoros grave 1187, 551 (Szenthe et al., 2024, Fig. 10); Csákbereány–Arató-szerű grave 27 (unpublished, excavation of the author); Pilismarót–Basaharc grave 6 (Szenthe et al., 2024, Fig. 7, 12). For location see Fig. 1

third or the first half of the 9th century.⁴⁵ They were probably in use for more than 100 years by the Avar age population, so we should not automatically date these two types of wire jewellery to the 9th century (Fig. 4). The ending of the multiple S-ended pendants simplified into a simple S shape during the latest period of the late Avar age. The fashion of these types of wire jewellery was adopted first by Moravian Slavs around the turn of the 8th and 9th centuries and later by Western Slavs.⁴⁶

In the case of some other jewellery types traditionally classified in the last phase of late Avar age, we can also suppose an earlier appearance and longer use with great certainty (Fig. 5). Such are spiral finger rings, punched plate finger rings with shield-like bezel and earrings with oval hoop and prismatic or elongated drop shaped bead pendant, that appeared as early as the first half of the 8th century.⁴⁷

⁴⁵ Szőke, 1992, 850–852.

⁴⁶ Mesterházy, 2023, 205.

⁴⁷ Szűcsi, 2023, Fig. 14.

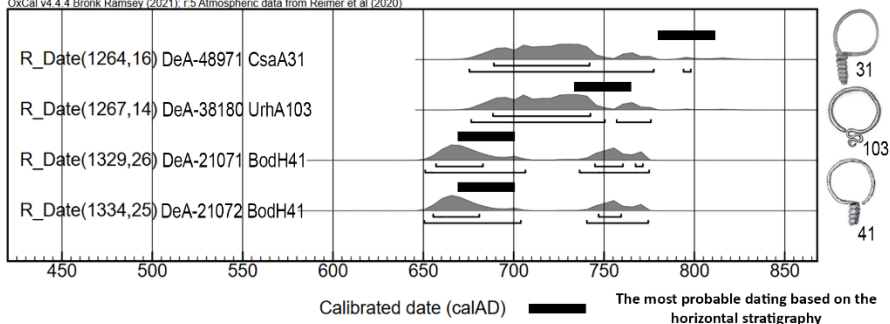


Figure 4. Radiocarbon sequence of three graves (Csákerény–Arató-szerű grave 31, Úrhida–Arany János utca grave 103, Bodajk–Homoki-dűlő grave 41), which contain spiral and multiple S-shaped pendants. For location see Fig. 1

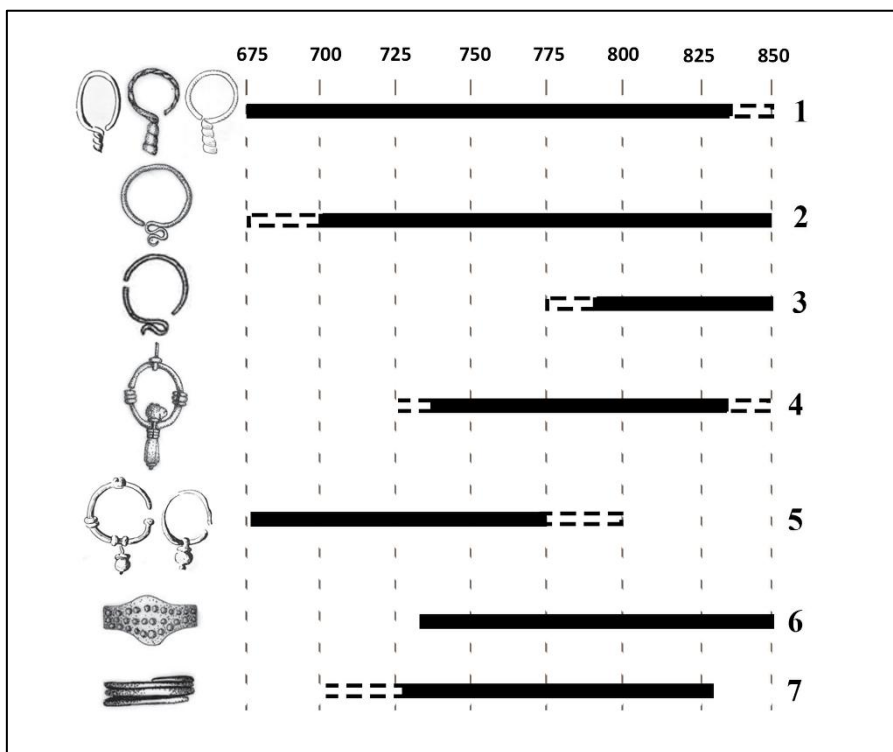


Figure 5. A timeline of some Late Avar artefact types in the light of recent research results: 1. Spiral pendants; 2. Multiple S-shaped pendants; 3. Simple S-shaped pendants; 4. Earrings with oval loops and long bead pendants; 5. Earrings with round hoops and short bead pendants; 6. Punched plate finger rings with shield-like bezels; 7. Spiral finger rings

The final phase of the late Avar period was followed by a post-Avar period (in the second half or last third of the 9th century), when the Avar representational culture disappeared. However, elements of the Avar deep culture, specifically, everyday objects of folk culture (needle cases with diagonal lattice pattern,⁴⁸ bone jars,⁴⁹ knives with antler handles,⁵⁰ wooden buckets with iron tyre⁵¹), as well as workshop and craft traditions (such as iron-working, pottery) and some types of jewellery survived the Hungarian Conquest at the end of the 9th century (S-terminalled rings,⁵² spiral pendants,⁵³ earrings with one pulled up plate-sphere,⁵⁴ some types of beads,⁵⁵ bracelets with flaring terminals,⁵⁶ finger rings with shield like bezel⁵⁷). Regarding iron-working, the technological continuity of the bloomery furnaces suggests the presence of a local population with stable craft skills preserving the late Avar traditions during the 9th and 10th centuries.⁵⁸ The survival can also be seen in the pottery traditions.⁵⁹ In the 10th century, baking bells,⁶⁰ hand-formed cauldrons⁶¹ and slender pots, as well as internal rim decorations and incised wavy line bundle decorations of vessels,⁶² are seen as an archaic, surviving late Avar tradition.

It can be shown in several regions that the number of graves in late Avar period cemeteries exceeds the number of graves in the 10th- and even 11th-century cemeteries which provides additional evidence for the Avar continuity, just like the similar settlement density of the two periods.⁶³ Nevertheless, the lack of find-types that can be dated exclusively to the 9th century makes it extremely difficult to identify individual 9th century graves in the Carpathian Basin outside the Carolingian Pannonia.

⁴⁸ Szenthe-Gáll, 2023, 205–218; Fülöp et al., 2024, 118.

⁴⁹ Fülöp et al., 2024.

⁵⁰ Fülöp et al., 2024, 118–120.

⁵¹ Fülöp et al., 2024, 120–121.

⁵² Mesterházy, 2023, 205.

⁵³ Fülöp et al., 2024, 122; Horváth, 2016, 123.

⁵⁴ Fülöp et al., 2024, 107–109.

⁵⁵ Fülöp et al., 2024, 109–111.

⁵⁶ Fülöp et al., 2024, 113–114.

⁵⁷ Fülöp et al., 2024, 114.

⁵⁸ Mesterházy, 2011; Gömöri, 2018.

⁵⁹ Szőke, 1980, 188; Herold, 2004, 63.

⁶⁰ Takács, 1996, 170.

⁶¹ Takács, 1986, 109–111.

⁶² Wolf, 2003, 96.

⁶³ Cseh et al., 2016, 313–315.

In this respect, we are looking for help from scientific dating methods. However, I must also emphasize the limits of radiocarbon dating in the 9th-century dating. In the mid-770s there is a large wave in the radiocarbon calibration curve. Because of this, the highest value of the calibrated dating results is often in the 770s (see *Fig. 4*). A gamma-ray burst dated to 774–775 causes the large wave in the radiocarbon calibration curve, when the proportion of the carbon 14 isotope suddenly increased.⁶⁴ After the large wave there is a plateau in the radiocarbon curve. Because of this the calibrated absolute dates give us too wide time intervals. These wide time intervals do not help us in the exact dating during the 9th century (see *Figs. 3–4*), many researchers believe that those are only good for checking archaeological dating.⁶⁵

The generally applied practice in archaeological scholarship of considering only the more probable time interval within the 2σ (95.4% probability) range is problematic. For the period spanning the last third (or quarter) of the 8th century to the first quarter (or third) of the 9th century, archaeological and dendrochronological evidence suggests that the less probable intervals within the 2σ (95.4% probability) range may in fact be the more plausible ones. (*Table 1*). If these observations are valid, this may suggest that the final conclusions of some publications – according to which the use of certain Late Avar cemeteries ended by the late 8th century based on individual radiocarbon results and/or their Bayesian analysis⁶⁶ – could be methodologically reconsidered, as these cemeteries may have continued to be in use into the 9th century.

From around 825/830 onwards, it is again primarily the more probable time intervals within the 2σ (95.4% probability) ranges that can be reconciled with dendrochronological and archaeological chronology (*Table 2*).

Conclusions

The cessation of Avar political organization in the second quarter of the 9th century does not result in the cessation of Avar identity, because based on the historical sources between 867 and 889, we can assume the survival of

⁶⁴ Lőrinczy–Siklósi, 2015, 713.

⁶⁵ Szenthe–Gáll, 2023, 279–283; for an overview, see Somogyi, 2025, 506.

⁶⁶ E.g. Siklósi–Lőrinczy, 2015; Bajkai–Kolozi, 2017.

the Avar ethnos after the fall of the Avar Khaganate at least until the Hungarian Conquest (late 9th century) and in some regions (e.g. in Croatia based on the *De Administrando Imperio*) perhaps even afterwards.

In almost all archaeological chronologies, the last phase of the late Avar culture was adapted to the historical events of the Avar Khaganate as political organization. It is methodologically incorrect to base archaeological chronology on historical data, because it is a mixed reasoning. What is more, the historical sources prove that the Avar identity did not disappear at the same time as the sovereign political organization. The archaeological record testifies to the continuity of certain elements of the deep culture, crafts and workshop traditions from the Avar Age until the 9th century and even until the 10th century, despite the disappearance of the Avar representational culture during the first third/half of the 9th century.

The proposed new chronological model related to horizontal stratigraphy and radiocarbon dating indicates a late Avar chronology that unfolds like an accordion. On the one hand, in some sites and regions, the appearance of the late Avar culture can be dated earlier than the turn of the 7th and 8th centuries, on the other hand, the last phase of the late Avar period ornate belt sets can be dated to the first third or first half of the 9th century. We still do not know exactly, in which region and for how long the latest phase of the Avar culture lasted after the fall of the Avar Khaganate. The lack of find-types that can be dated exclusively to the 9th century makes it extremely difficult to identify individual 9th century graves in the Carpathian Basin outside the Carolingian Pannonia. From microregional interdisciplinary research we may expect more detailed results about the 9th-century population and culture of the former Avar Khaganate.⁶⁷

⁶⁷ I am grateful to Dömötör Kovács for proofreading the English version of the paper.

Table 1. Examples in which the less probable time intervals within the 2 σ (95.4% probability) ranges appear to be more consistent with dendrochronological and archaeological chronologies for the period spanning the last third (or quarter) of the 8th century to the first quarter (or third) of the 9th century

AMS 14C code	Site	Grave / Object number	Type of sample	Uncalibrated BP	95,4% calAD	Archaeological dating	Dendrochronological dating	References
DeA-48971	Csákberény-Arató-szérű	31	human bone	1264,16	675 (94.6%) 777; 794 (0.8%) 798	780-810	-	unpublished (excavation of the author)
DeA-48970	Csákberény-Arató-szérű	27	human bone	1243,15	684 (53%) 744; 771 (3.1%) 779; 786 (35.6%) 830 ; 854 (3.7%) 873	790-830	-	unpublished (excavation of the author)
DeA-20888	Székesfehérvár-Jókai u. 14	SNR 2017/28	wood	1259,28	670 (75.4%) 778; 786 (17.2%) 830 ; 855 (2.8%) 872	-	798-801	Morgós et al., 2020
Deb-8041	Pitvaros-Víztározó	167	human bone	1301,38	652 (92.7%) 777; 792 (1.5%) 802 ; 810 (1.3%) 820	775-800	-	Siklósi & Lőrinczy, 2015
Deb-8024	Pitvaros-Víztározó	51	human bone	1258,36	668 (67.1%) 779; 785 (21.1%) 837 ; 846 (7.2%) 877	800-830	-	Siklósi & Lőrinczy, 2015
Deb-8057	Pitvaros-Víztározó	205	human bone	1309,47	645 (89.0%) 779; 787 (6.4%) 828	800-830	-	Siklósi & Lőrinczy, 2015
DeA-3466	Debrecen-Bellelő, Bordás-tanya	444/444	human bone	1324,33	650 (53.2%) 710; 721 (42.3%) 775	730-800	-	Bajkai & Kolozsi, 2017
DeA-3947	Debrecen-Bellelő, Bordás-tanya	353/353	human bone	1276,25	665 (92.8%) 777; 792 (1.4%) 800 ; 811 (1.2%) 819	780-850	-	Bajkai & Kolozsi, 2017
DeA-22534	Hortobágy-Árkus	26	human bone	1333,32	647 (58.4%) 708; 726 (37.1%) 775	770-830	-	Szenthe et al. 2024
DeA-22559	Tiszafüred-Majoros	1142	human bone	1266,25	670 (86.4%) 777; 790 (9.1%) 822	790-830	-	Faragó et al., 2022
DeA-22609	Tiszafüred-Majoros	1189	human bone	1344,29	644 (68.4%) 704; 738 (27.1%) 774	770-830	-	Faragó et al., 2022
DeA-39834	Pilismarót-Basaharc	6	human bone	1251,14	680 (75.1%) 745; 761 (3.7%) 779 ; 788 (16.7%) 826	760-840	-	Szenthe et al., 2024
DeA-39801	Pilismarót-Basaharc	22	human bone	1315,18	658 (49.7%) 704; 740 (45.7%) 774	760-800	-	Szenthe et al., 2024
DeA-39835	Pilismarót-Basaharc	68	human bone	1250,15	680 (71.6%) 745; 760 (3.9%) 779 ; 787 (20.0%) 827	760-840	-	Szenthe et al., 2024
DeA-39798	Pilismarót-Basaharc	194	human bone	1249,17	679 (66.1%) 746; 759 (4.6%) 779 ; 787 (23.7%) 829 ; 859 (1.0%) 866	760-840	-	Szenthe et al., 2024
DeA-26578	Szarvas-Grexa-téglagyár	266	human bone	1235,16	681 (57.5%) 743; 769 (3.9%) 780; 785 (31.1%) 833 ; 853 (2.9%) 872	780-820	-	Gulyás et al., 2025

Table 2. Examples of more probable time intervals within the 2 σ (95.4% probability) ranges reconciled with dendrochronological and archaeological chronology from c. 825/830 onwards

AMS 14C code	Site	Grave / Object number	Type of sample	Uncalibrated BP	95.4% calAD	Archaeological dating	Dendrochronological dating	References
DeA-4834	Székesfehérvár-Jókai u. 20	Szfv8/1	wood	1198,18	782 (7.7%) 790; 822 (60.6%) 881	-	831-833	Morgós et al., 2020
?	Zalavár-Vársziget	8/2000	human bone	1140,30	774 (4.9%) 787; 828 (8.5%) 860; 870 (82.0%) 992	850-890	-	Gerber et al., 2024, S1

References

- Bajkai, R. – Kolozsi, B. (2017). Az abszolút kormeghatározás lehetőségei, avagy a 9. századi keltezés nehézségei egy debreceni lelőhely tükrében. Takács, M. (Szerk.), *Az Alföld a 9. században II.* Monográfiák a Szegei Tudományegyetem Régészeti Tanszékéről 4. Szeged, 103–137.
- Bajnok, K. – Szakmány, Gy. – Bendő, Zs. (2020). Petrographic contribution to the origin of Early Avar Age ‘Csákberény group’ ceramics. *Journal of Archaeological Science: Reports* 32(102411), 1–14.
<https://doi.org/10.1016/j.jasrep.2020.102411>
- Balogh, L. (2017). Megjegyzések a Kárpát-medence 9. század eleji történelméhez (Note on the History of the Carpathian Basin at the Beginning of the 9th Century). Takács, M. (Szerk.), *Az Alföld a 9. században II.* Monográfiák a Szegei Tudományegyetem Régészeti Tanszékéről 4. Szeged, 231–248.
- Balogh, L. (2022). A magyarság és a kereszténység a IX. században. Molnár, Á. (Szerk.) *Istenek vándorútján. Vallások, hiedelmek a Kárpát-medencében és az eurázsiai háttér. Tanulmányok Voigt Vilmos tiszteletére.* Budapest, 169–190.
- Bóna, I. (1984). A népvándorlás kor és a korai középkor története Magyarországon. Székely, Gy. (Szerk.), *Magyarország története. Előzmények és magyar történet 1242-ig.* Budapest, 265–373.
- Bóna, I. – Szentpéteri J. (1996). A 9. századi Kárpát-medence népei a történeti és régészeti források alapján. Glatz, F. (Szerk.), *A magyarok krónikája.* Budapest.
- Cseh, G. – Gallina, Zs. – Gulyás, Gy. – Varga, S. (2016). A Kalocsai Sárköz népesége a honfoglalást megelőzően. Gallina, Zs. – Varga, S., *A Duna–Tisza közének honfoglalás és kora Árpád-kori temetői, sír és kincsleletei I. A Kalocsai*

- Sárköz a 10–11. században*. Magyarország honfoglalás kori és kora Árpád-kori sírleletei 10. Szeged–Budapest, 309–316.
- Cs. Sós, Á. (1973). *Die Slawische Bevölkerung Westungarns im 9. Jahrhundert*. Münchner Beiträge zur Vor- und Frühgeschichte 22. München.
- Dénes, J. (2012). A bolgárok hódításai és telepítései a Kárpát-medencében a magyar honfoglalás előtt (Bulgarian conquests and settlements in the Carpathian Basin before the Hungarian conquest). Tóth, A. (Szerk.), *Néprajz – muzeológia. Tanulmányok a múzeumi tudományok köréből a 60 éves Viga Gyula tiszteletére*. Miskolc, 52–64.
- Felföldi, Sz. (2017). Avar kori helynévi nyomok a Kárpát-medencében II. (Traces of toponyms from the Avar period in the Carpathian Basin II). Takács M. (szerk.), *Az Alföld a 9. században II*. Monográfiák a Szegedi Tudományegyetem Régészeti Tanszékéről 4. Szeged, 209–230.
- Fülöp, Gy. (1978). La survivance des Avars au IX^e siècle. *Alba Regia* 16, 87–97.
- Fülöp, R. – Györi-Pórszász, A. – Révész, L. – Ritoók, Á. (2024). 8–9. századi tárgytipusok, viseleti szokások továbbélése a Kárpát-medence 10–11. századi sírjaiban (Survival of 8th–9th-century artefact types and clothing practices in 10th–11th-century Carpathian Basin burials). Kovács, Gy. – Zatykó, Cs. (Szerk.), *A tudománynak gazdag ágai... Tanulmányok Benkő Elek hetvenedik születésnapjára*. Budapest, 107–128.
- Garam, É. (1995). *Das awarenzeitliche Gräberfeld von Tiszafüred*. Buda pest.
- Garam, É. (2001). *Funde byzantinischer Herkunft in der Awarenzeit vom Ende des 6. bis zum Ende des 7. Jahrhunderts*. Monumenta Avarorum Archaeologica 5. Budapest.
- Gjuzalev, V. (1966). Bulgarisch-fränkische Beziehungen in der ersten Hälfte des IX. Jhs. *Byzantinobulgarica* 2, 15–39.
- Gerber, D. et al. (2024). Ancient genomes reveal Avar-Hungarian transformations in the 9–10th centuries CE Carpathian Basin. *Science Advances* 10/51. <https://doi.org/10.1101/2024.05.29.596386>
- Gnecchi-Ruscone, G. A. et al. (2022). Ancient genomes reveal origin and rapid trans-Eurasian migration of 7th century Avar elites. *Cell*, 185(8), 1402–1413. <https://doi.org/10.1016/j.cell.2022.03.007>
- Gömöri, J. (2018). Technológiai-kontinuitási kérdések a somogyi vasvidék “izzó” vasbucái fényében (Questions of the technological continuity in the light of the glowing iron blooms found at the sites in Somogy county). Varga, M. –

- Szentpéteri, J. (Szerk.), *Két világ határán. Ter-mészet- és társadalomtudományi tanulmányok a 70 éves Költő László tiszteletére*. A Kaposvári Rippel-Rónai Múzeum Közleményei 6. Kaposvár, 77–87.
<https://doi.org/10.26080/krrmkozl.2018.6.77>
- Györffy, Gy. (1996). Népek és nyelvek a honfoglalás térségében. *Századok* 130(4), 965–969.
- Gulyás, B. (2023). Cultural connections between the Eastern European steppe region and the Carpathian Basin in the 5th–7th centuries AD. The origin of the Early Avar Period population of the Trans-Tisza region. *Dissertationes Archaeologicae* 3(11), 701–756.
- Gulyás, B. – Somogyi, P. – Szenthe, G. (2025). New data on the Avar Period chronology of the Körös–Tisza–Maros Interfluve. Some radiocarbon dates from the cemeteries of Szarvas-Grexa-téglagyár and Székkutas-Kápolnadűlő. *Dissertationes Archaeologicae* 3(12), 343–372.
- Herold, H. (2004). *Die frühmittelalterliche Siedlung von Örménykút 54*. Varia Archaeologica Hungarica XIV. Budapest.
- Horváth, C. (2016). *Kora Árpád-kori temető Szombathely–Kisfaludy Sándor utca területén. S végű karikaékszerek a kora Árpád-kori Nyugat-Dunántúlon*. Szombathely.
- Istvánovits, E. (2001). Korai szláv település Kisvárdai határában. *A Nyíregyházi Jósai András Múzeum Évkönyve* 43, 165–181.
- Katona-Kiss, A. (2010). A bolgár kánság és a Kárpát-medence a IX. században. *Hadtörténelmi Közlemények* 73(1–2), 168–214.
- Költő, L. – Szentpéteri, J. (2016). Avar-magyar folyamatos temetőhasználat? Vörs-Papkert. Sudár, B. – Petkes, Zs. (Szerk.), *Honfoglalás és megtelepedés*. Magyar őstörténet 4. Budapest, 161–162.
- Kristó, Gy. (1995). *A magyar állam megszületése*. Szegedi Középkortörténeti Könyvtár 8. Szeged.
- Lőrinczy, G. – Siklósi, Zs. (2015). A Pitvaros-víztározói késő avar kori temető radiokarbon keltezése, Bayes analízise és régészeti értékelése (Radiocarbon dating, Bayesian analysis and archaeological evaluation of the Late Avar cemetery at Pitvaros-Víztározó). Balogh, Cs. – Major, B. (Szerk.), *Hadak Útján XXIV. A népvándorlaskor fiatal kutatóinak XXIV. konferenciája. Esztergom, 2014 november 4–6*. 1. kötet. *Studia ad Archaeologiam Pazmaniensia* 3.1 – Magyar Őstörténeti Témacsoport Kiadványok 3.1. Budapest–Esztergom, 707–736.

https://doi.org/10.55722/Arpad.Kiad.2015.3.1_27

- Makkay, J. (1994). *A magyarság keletkezése [Dating Hungarian]*. A Jász-Nagykun-Szolnok Megyei Múzeumok Közleményei 48. Szolnok.
- Mesterházy, K. (1977). A Tiszántúl IX–X. századi bolgár emlékei. *Folia Archaeologica* 28, 157–169.
- Mesterházy, K. (2011). Települési kontinuitás a Bükk-hegységben a 8–10. Században a vasfeldolgozás példáján. Kolozsi, B. – Szilágy, K. A. (Szerk.), *Sötét idők falvai. 2006-ban Debrecenben megrendezett konferencia I. kötete*. Tempora Obscura 1. Debrecen, 15–32.
- Mesterházy, K. (2023). Az S végű karika kialakulása és elterjedése. *Communicationes Archaeologicae Hungariae*, 187–213.
<https://doi.org/10.54640/CAH.2023.187>
- Morgós, A. – Kern, Z. – Horváth, E. (2020). Székesfehérvár 11. századi kő vár(os)fala alatti tölgy gerendaalapozás dendrokronológiai és radiokarbon vizsgálata. *Alba Regia* 48, 85–109.
- Müller, R. (2020). A Keszthely-kultúra ma (The Keszthely culture today). *Archaeologiai Értesítő* 145, 69–99.
<https://doi.org/10.1556/0208.2020.00003>
- Nagy, I. (2017). Kísérlet a 10. századi Kárpát-medence etnikai rekonstrukciójára. Sudár B. (Szerk.), *Dentumoger I. Tanulmányok a korai magyar történelemről*. MTA BTK Magyar Őstörténeti Témacsoport, Források és tanulmányok 2. Budapest, 357–398.
- Nagy, K. (2011). Megjegyzések az avarok korai történetének kronológiájához (Comments on the Chronology of the Early History of the Avars). *Belvedere Meridionale* 23(4), 6–14.
- Olajos, T. (2004). Az avar továbbélés kérdéséről. A 9. századi avar történelem görög és latin nyelvű forrásai. Erdei, Gy. – Nagy, B. (Szerk.), *Változatok a történelemre. Tanulmányok Székely György tiszteletére*. Monumenta Historica Budapestiensia XIV. Budapest, 111–118.
- Pintér Nagy, K. – Wolf, M. (2017). Újabb régészeti adatok a Bodroghöz 6. század végi – 9. századi történetéhez. Előzetes jelentés Pácín-Szena-domb lelőhelyről. Takács, M. (Szerk.), *Az Alföld a 9. században II*. Monográfiák a Szegei Tudományegyetem Régészeti Tanszékéről 4. Szeged, 139–163.
- Pohl, W. (2018). *The Avars. A Steppe Empire in Central Europe*, 567–822. London.

- Róna-Tas A. (1995). Hogyan hívták Árpád dédunokáját? Koszta, L. (Szerk.), *Kelet és nyugat között. Történeti tanulmányok Kristó Gyula tiszteletére*. Szeged, 417–430.
- Somogyi, P. (2025). Radiokarbon kormeghatározás az avar korszak kutatásában (1978–2023). *Archaeologiai Értesítő* 150, 475–510.
<https://doi.org/10.1556/0208.2025.00093>
- Szabados, Gy. (2016). Vázlat a magyar honfoglalás Kárpát-medencei háttéréről (Framing the Background of the Hungarian Conquest – the Carpathian Basin). Kovács, L. – Révész, L. (Szerk.), *Népek és kultúrák a Kárpát-medencében. Tanulmányok Mesterházy Károly tiszteletére*. Budapest, 629–648.
- Szabados, Gy. (2016a). Avarok eltűnőben, avagy a hasonulás három fokozatáról (Disappearing Avars or the Three Phases of Transformation). Csécs, T. – Takács, M. (Szerk.), *Beatus homo qui invenit sapientiam. Ünnepi kötet Tomka Péter 75. születésnapjára*. Győr, 671–686.
- Szalontai, Cs. (2000). Kritische Bemerkungen zur Rolle der Bulgaren im 9. Jahrhundert in der Großen Ungarischen Tiefebene und in Siebenbürgen. *A Móra Ferenc Múzeum Évkönyvei – Studia Archaeologica* 6, 263–286.
- Szádeczky-Kardoss, S. (1993). Még egyszer Regino és a korabeli magyarság. Lőrinczy, G. (Szerk.), *Az Alföld a 9. században*. Szeged, 227–236.
- Szántó, R. (2021). A Kárpát-medence népessége a 9. században (The Population of the Carpathian Basin in the 9th century). Thoroczkay, G. (Szerk.), *A XI. Medievisztikai PhD-konferencia (Szeged, 2019 má-jus 30–31.) válogatott előadásai*. Középkortörténeti tanulmányok 11. Szeged, 51–68.
- Szántó, R. (2022). The Avars and other Peoples in the Carpathian Basin in the 9th Century. *İnsan ve Toplum Bilimleri Akademi Dergisi (Journal of Humanities and Social Sciences Academy)* 2(1), 001–014.
<https://doi.org/10.5281/zenodo.6667495>
- Szántó, R. (2024). Az avar politikai és társadalmi struktúrák felbomlása a 9. század elejétől a 860-as évekig. Hunyadi, Zs. – Kőfalvi, T. (Szerk.), *Napok, évek, századok. Tanulmányok Almási Tibor 65. születésnapjára*. Szeged, 435–448.
- Szenethe, G. – Gáll, E. (2023). Hortobágy-Árkus kora középkori temetője (The Early Medieval Cemetery at Hortobágy-Árkus). *Archaeologia Hungarica* 52. Budapest.

- Szenthe, G. – Faragó, N. – Gáll, E. (2024). Chronological problems of the 7th–10th-century AD Carpathian Basin in light of radiocarbon data. *Dissertationes Archaeologicae* 3(11), 443–492.
<https://doi.org/10.17204/dissarch.2023.443>
- Szentpéteri, J. (Hrg.) (2002). *Archäologische Denkmäler der Awarenzeit in Mitteleuropa*. Varia Archaeologica Hungarica XIII. Budapest.
- Szentpéteri, J. (2006). Amiről a térképek mesélnek. Adalékok az avar korszak keltezési problémaköréhez (Tales Told by the Maps. Contribution to the Dating Problems of the Avar Age). *Arrabona* 44(1), 455–496.
- Szentpéteri, J. (2017). Térképlapok a 9. századi Kárpát-medencéről (Maps of the Carpathian Basin in the 9th century). Takács, M. (Szerk.), *Az Alföld a 9. században II*. Monográfiák a Szegedi Tudományegyetem Régészeti Tanszékéről 4. Szeged, 27–52.
- Szőke, M. B. (1980). Zur awarenzeitlichen Siedlungsgeschichte des Körös-Gebietes in Südost-Ungarn. *Acta Archaeologica Academiae Scientiarum Hungaricae* 32, 181–203.
- Szőke, M. B. (1990–1991). The Question of Continuity in the Carpathian Basin of the 9th Century A.D. *Antaeus Communicationes ex Instituto Archaeologico Academiae Scientiarum Hungaricae* 19-20, 145–158.
- Szőke, M. B. (1992). Die Beziehungen zwischen dem oberen Dunautal und Westungarn in der ersten Hälfte des 9. Jahrhunderts (Frauentrachtzubehör und Schmuck). Falko, D. (Hrsg.), *Awarenforschungen*, Band 2. Archaeologia Austriaca Monographien 1. Wien, 841–968.
- Szőke, M. B. (2014). *The Carolingian Age in the Carpathian Basin. Permanent Exhibition of the Hungarian National Museum*. Budapest.
- Szőke, M. B. (2019). *A Karoling-kor Pannóniában*. Mosaburg – Zalavár 1. Budapest.
- Szücsi, F. (2017). A Mezőföld a 9. század küszöbén. Balogh, Cs. – Major, B. (Szerk.), *Hadak Útján XXIV. A népvándorláskor fiatal kutatóinak XXIV. konferenciája. Esztergom, 2014 november 4–6*. 2. kötet. Studia ad Archaeologiam Pazmaniensia 3.2 – Magyar Östörténeti Témacsoport Kiadványok 3.2. Budapest–Esztergom, 175–202.
- Szücsi, F. (2023). The 9th Century Chronology under Fire? Remarks on the Chronology of the Spiral and Multiple S-Ended Pendants. Mărginean, F. – Romat, S. – Băcuț-Crișan, D. – László, K. – Stanciu, I. (Eds.), *The Power of Fire in the Middle Ages (7th – 14th Centuries)*. *Proceedings of the International*

- Conference “The Power of Fire in the Middle Ages (7th – 14th Centuries)”. Székesfehérvár 14th – 16th October 2022. Orbis Mediaevalis IV. Cluj-Napoca–Budapest, 207–226.
- Takács, M. (1986). *Die arpadenzeitlichen Tonkessel im Karpatenbecken*. Varia Archaeologica Hungarica 1. Budapest.
- Takács, M. (1996). Formschatz und exaktere Chronologie der Tongefässe des 10–14. Jahrhunderts der Kleinen Tiefebene. *Acta Archaeologia Hungarica* 48, 135–195.
- Takács, M. (2016). The Ninth-Century Carpathian Basin on the North-Western Edge of the First Bulgarian State. An Overview of Some Hypotheses and Remarks and Their Evaluation. Bollók, Á. – Csiky, G. – Vida, T. (Eds.), *Zwischen Byzanz und der Steppe. Archäologische und historische Studien Festschrift für Csanád Bálint zum 70. Geburtstag (Between Byzantium and the Steppe. Archaeological and Historical Studies in Honour of Csanád Bálint on the Occasion of His 70th Birthday)*. Budapest, 501–517.
- Vida, T. (2016). „They Asked to Be Settled in Pannonia”. A Study on Integration and Acculturation – the Case of the Avars. Bollók, Á. – Csiky, G. – Vida, T. (Eds.) *Zwischen Byzanz und der Steppe. Archäologische und historische Studien Festschrift für Csanád Bálint zum 70. Geburtstag. (Between Byzantium and the Steppe. Archaeological and Historical Studies in Honour of Csanád Bálint on the Occasion of His 70th Birthday)*. Budapest, 251–270.
- Wang, K. et al. (2025). Ancient DNA reveals reproductive barrier despite shared Avar-period culture. *Nature* 638, 1007–1014.
<https://doi.org/10.1038/s41586-024-08418-5>
- Wolf, M. (2003). Adatok 10. századi edényművészeti körhöz. A borsodi leletek tanúságai. *A Herman Ottó Múzeum Évkönyve* 42, 85–108.
- Zlatarski, V. N. (1918). *Geschichte der Bulgaren I*. Parlapanoff.

9. yüzyılda Avarlar – Dönemin tarihsel ve arkeolojik araştırmalarına genel bir bakış

Genişletilmiş özet

567/568 yılından itibaren Karpat Havzası’na yerleşen Avarlar, farklı köken ve kültürel arka planlara sahip çok sayıda topluluğu bünyesinde barındıran geniş bir impara-

torluk üzerinde hüküm sürmüşlerdir. 7. yüzyılın sonlarına doğru – 8. yüzyılın başlarında, bu kültürel çeşitlilikten, doğu göçebe geleneklerini muhafaza eden ve kağanlık genelinde homojen bir karakter sergileyen Geç Avar kültürü teşekkül etmiştir. 8. yüzyılın sonlarında gerçekleşen Frank-Avar savaşları neticesinde Avar Kağanlığı egemenliğini kaybetmiş ve Şarlman'ın Karolenj İmparatorluğu'nun vasalı hâline gelmiştir. Araştırmacıların çoğu, 822 yılında Frank imparatorluk meclisinde Avar elçiliğinin anılmasını Avar siyasal teşkilatına dair son veri olarak kabul etmektedir; bununla birlikte, daha yeni tarihsel değerlendirmeler Avar siyasal yapısının en azından 843 yılına kadar varlığını sürdürmüş olabileceğini de ileri sürmektedir.

Her hâlükârda, siyasal formasyonun 9. yüzyılın ikinci çeyreğinde ortadan kalkması, Avar kimliğinin de eş zamanlı olarak kaybolduğu anlamına gelmemektedir. Nitekim Avar topluluğunun varlığını sürdürdüğüne dair 867 ile 889 yılları arasına tarihlenen çeşitli çağdaş kaynaklar ile 10. yüzyılın ortalarına ait *De Administ-rando Imperio* açık tanıklık sunmaktadır. Dolayısıyla tarihsel kaynaklar, Avar topluluğunun Karpat Havzası'nda Macar yurt tutuşunu tecrübe ettiğini ve büyük olasılıkla 10. yüzyılda da yer yer varlığını sürdüren, tanımlanabilir bir topluluk olarak mevcudiyetini koruduğunu göstermektedir.

Bu durumdan hareketle, Avarların bütünüyle “Slavlaşması” yönündeki ve ağırlıklı olarak dilbilimsel argümanlara dayanan görüşlerin, tarihsel verilerden çıkarılabilecek sonuçlarla uyumlu olmadığı da anlaşılmaktadır.

Arkeolojide kullanılan kronolojik sistemin son evresi genellikle Avar Kağanlığı'nın siyasal bir yapı olarak ortadan kalkmasıyla ilişkilendirilen tarihsel olaylara dayandırılmaktadır; bu durum metodolojik açıdan sorunlu olan “karma argümantasyon” pratiğine işaret etmektedir. Tarihsel ve arkeolojik verilerin bu şekilde birleştirilmesi, yalnızca tarihsel veriler temelinde dahi tartışmalıdır; zira yukarıda da belirtildiği üzere, Avar kimliği egemen siyasal yapının ortadan kalkmasıyla eş zamanlı olarak kaybolmamış, aksine birkaç kuşak boyunca varlığını sürdürebilmiş olabilir. 9. yüzyıl içindeki görece daha kesin arkeolojik kronoloji yalnızca eski Avar Kağanlığı'nın batı kesiminden, özellikle Tuna'nın batısında elde edilebilmektedir; çünkü bu bölgede Doğu Frank buluntuları ve Karolenj kültürüne ait materyaller ortaya çıkmaktadır. Muhtemelen yalnızca bu bölge Karolenj İmparatorluğu'nun bir parçası olarak Pannonia (superior) eyaleti hâline gelmiştir. Eski Avar Kağanlığı'nın diğer bölgelerinde ise, yalnızca 9. yüzyıla ya da bu yüzyıl içinde daha dar bir zaman aralığına kesin olarak tarihlenebilen buluntular genellikle mevcut değildir.

Son yıllarda yayımlanan arkeolojik ve doğa bilimlerine ait veriler (özellikle radyokarbon tarihlendirme), Geç Avar döneminin kronolojisinin adeta “armonika benzeri” biçimde genişlediğini göstermektedir; yani bazı bölgelerde belirli Geç Avar dönemi nesne tiplerinin daha erken bir tarihte, 7–8. yüzyıl dönümünde ortaya çıktığı ve aynı zamanda daha uzun süre kullanımda kaldığı anlaşılmaktadır. Bununla birlikte, Geç Avar kültürünün son evresinin hangi bölgede ne zamana kadar tarihlendirile-

bileceđi hâlen kesin olarak belirlenebilmiş deđildir; zira Karolenj Pannonya'sı dışında, yalnızca 9. yüzyıla ya da bu yüzyıl içinde daha kesin olarak tarihlenebilen nesne tiplerinin yokluđu nedeniyle, bireysel mezarların 9. yüzyıl içindeki kesin tarihlendirilmesi problemli olmaya devam etmektedir.

Arkeolojik veriler, Avar dönemine ait temsili kültürün 9. yüzyılın ilk üçte birinde veya yarısında ortadan kalkmasına rağmen, derin kültürün bazı unsurlarının (örneğin halk kültürüne ait gündelik kullanım araçlarının bir kısmı ve mutfak kültürü), ayrıca belirli zanaat ve atölye geleneklerinin (çömlekçilik, demir işçiliđi) ve bazı takı tiplerinin 9. yüzyılın ikinci yarısında, hatta kısmen 10. yüzyılda da varlığını sürdürdüđünü ortaya koymaktadır.

Bilgilerimizin genişlemesi, farklı disiplinleri bir araya getiren kapsamlı mikro-bölgesel araştırmalar sayesinde mümkün olacaktır. Bu tür çalışmaların sentezi, Avar Kağanlığı'nın ortadan kalkışından Karpat Havzası'ndaki Macar Büyük Prensliliđi'nin oluşumuna kadar uzanan dönemin muhtemel nüfus tarihi ve kültürel dönüşüm süreçlerine ilişkin modellerin oluşturulmasına imkân sağlayacaktır.