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Environments of War

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Environments of War

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Special Editors of the Thematic Issue

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Contextualizing the Mongol Invasion of Hungary in 1241–42: Short- and Long-Term Perspectives*

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The Mongol invasion in 1241–42 was a major disruption in the Kingdom of Hungary's history that brought serious changes to many facets of its political, demographic, and military development. It became a long-lasting element of collective memory that influenced modern historical discourse. Nonetheless, questions remain about the level and distribution of destruction and population loss, the role that environmental factors played in the invasion, the reasons for the Mongol withdrawal, and how this episode can be used for interpreting later thirteenth and fourteenth-century phenomena. The present article aims to discuss these four issues, employing a combined analysis of the wide-ranging textual material and the newer archaeological and settlement data in their regional context. We contend that new data supports the idea that destruction was unevenly distributed and concentrated in the Great Hungarian Plain. Furthermore, we express skepticism that environmental and climatic factors played the decisive role in the Mongol withdrawal in 1242, while we acknowledge the evidence that long-term climate change had substantial effects on Hungary's settlement patterns and economy as early as the mid-thirteenth century. We conclude that a nuanced multi-causal explanation for the Mongol withdrawal is necessary, taking greater consideration of local resistance and the military failures of the Mongol army than has previously been represented in international literature. Lastly, we uphold a viewpoint that the Mongol invasion brought many catalysts to Hungary's rapid development in the late thirteenth and early fourteenth centuries.

Keywords: Mongol Empire, Kingdom of Hungary, Mongol invasion of Europe, Mongol invasion of Hungary, environmental history, medieval archaeology

Introduction

The Mongol invasion of 1241–42 is among the key formative episodes in Hungarian history and has long been considered a threshold dividing periods in the Kingdom of Hungary's development. Academic research has been

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consistently engaged with the topic since the mid-nineteenth century, discussing not only the events themselves, but the reasons for them and their greater historical consequences. Certain contemporaries of the events recorded that the country was destroyed or that it submitted to the Mongols, and some researchers have since assumed that it may have lost a significant part of its population.¹ During the last two decades, a large quantity of new data has emerged from the field of archaeology. The first significant archaeological excavations were connected to motorway construction, but later these discoveries were followed up by targeted investigations.² The new archaeological data has been intensively discussed in Central and Eastern European scholarly circles, but it has not been very much represented in the recent wider discussions on the history of the Mongol Empire. At the same time, more than four decades after Denis Sinor first suggested ecological drivers behind the Mongol departure from Europe,³ a new environmental theory is being put forward concerning why the Mongols broke off their campaign, opting not to occupy Hungary after many military successes. Ulf Büntgen and Nicola Di Cosmo offered a viewpoint that the Mongol withdrawal in 1242 was largely driven by short-term climatic fluctuation and environmental concerns, i.e., the Mongols' inability to properly provision their troops and animals.⁴ Their theory attracted mainstream global media attention in many high-profile popular publications.⁵ The authors of the present article responded to this new explanation in a previous article; however, we limited our arguments to the viewpoint that short-term climate was likely not behind the withdrawal without attempting to provide an alternative explanation for the

1 For an overview of the scholarly debates on population losses, see: Berend, *At the Gates*, 36–37. As Berend points out, two schools of historiography emerged in the debate on the scale of destruction. On the basis of empty villages in charters, György Györffy suggested 50 percent of the population died in the invasion and its aftermath. Fügedi and others suggested the quick, dramatic recovery and economic prosperity contradicts such an image and Pál Engel felt a considerably lower estimate of around 15–20 percent of the population was more likely. See: Fügedi, “A tatárjárás demográfiai következményei,” 498–99.

2 Laszlovszky, “Material Remains,” 1–3; Laszlovszky, “Tatárjárás és régészet,” 455; Wolf, “Régészeti adatok.”

3 Sinor, “Horse and Pasture,” 181–83.

4 Büntgen and Di Cosmo, “Climatic and Environmental Aspects,” 1–9.

5 For instance, see the following online articles on the issue: Gearin, “Mongol Hordes Gave up on Conquering Europe Due to Wet Weather,” *New Scientist*, May 26, 2016; Kramer, “Scientists Finally Know What Stopped Mongol Hordes from conquering Europe,” *Business Insider*, May 27, 2016; Paul Rogers, “Why The Mongol Hordes Retreated from Europe,” *Forbes*, May 28, 2016.

mysterious event.⁶ This current article will move in the direction of offering an alternative explanation.

Theoretical and Methodological Issues

Our endeavor here is to seek multi-causal interpretations to the events of the invasion and aftermath, using the range of related data that is emerging. This means employing short- as well as long-term perspectives with a nuanced contextualization of textual, archaeological, climatic, and environmental data. The discussion of the events and their consequences takes into account settlement patterns, the evolving church and monastic network, material culture, building projects, etc. as indicators of ongoing economic and social processes which also shed light on the invasion and recovery. We intend to take a wider perspective, focusing not only on the short invasion itself but the whole period from 1220s until the mid-fourteenth century. This long-term perspective is crucial because of the large climatic shift that can be detected between the early thirteenth and the mid-fourteenth century.⁷ The long-term perspective is also essential because the crisis and recovery connected to the Mongol invasion unfolded for a long time after the withdrawal in 1242. In this respect, we pursue the path laid about by Jenő Szűcs by analyzing the economic and social transformation processes up to the mid-fourteenth century.⁸ While this long-term perspective has existed in previous scholarship, relevant data was unavailable. Thus, earlier viewpoints remained hypothetical and pertinent issues were only discussed in a limited way.⁹ Now with a new set of available data, several lingering questions should be revisited.

Discussion

In the following discussion, we will explore four broad topics related to the Mongol invasion and subsequent recovery, with the aim of incorporating data that has emerged from strengthening interdisciplinary approaches:

6 Pinke et al., “Climate of Doubt,” 1–6; see also Büntgen and di Cosmo’s responses to the refutation: Büntgen and Di Cosmo, “Reply to,” 1–2.

7 Holzhauser et al., “Glacier and Lake-Level Variations,” 1107–17; Pinke et al., “Settlement Pattern as Indicators,” 212; Pinke et al., “Zonal Assessment,” 110.

8 Szűcs, *Az utolsó Árpádok*.

9 Laszlovszky, “Per tot discrimina rerum?”

1. The level and distribution of destruction caused by the Mongol invasion in Hungary.
2. The impact of short- and long-term environmental and climatic changes on the Mongol invasion and Hungary's subsequent recovery.
3. The reasons behind the Mongol withdrawal from Hungary in 1242.
4. The aftermath of 1242 and subsequent recovery of Hungary in the long-term perspective.

The Level and Distribution of Destruction in the Mongol Invasion of 1241–42

The topic of the scope of the destruction inflicted by the first Mongol invasion of Hungary has long been debated, and it carries important implications for how we conceptualize the event and its consequences. Estimates of the total population losses could range as high as 50 percent to conservative numbers of perhaps 10–15 percent.¹⁰ While this is still a very large segment of the population, one could imagine such losses being replaced by immigration and natural population growth in the long term. However, we must emphasize that there is not enough data from which to determine population losses in 1241–42, or even the population size of thirteenth-century Hungary. There quite simply exists no precise information with which to reconstruct either. Historians can use indirect evidence to glean some idea on population size and loss. Data we can use are, for example, the proportion of deserted villages, and the transformation of the monastic network. A better insight into the demographic situation of the 1330s is offered by the papal tithe list, even though some uncertainties remain.¹¹ Also, recent research on the monastic network and parish system seems to supply better indicators of population loss than abandoned villages.¹² Taking into account the small number of written sources related to one settlement or the character and dating value of archaeological finds coming from excavated deserted villages from the thirteenth century, it is not clear which villages were deserted as a result of their destruction by the Mongol army, the short-term consequences of the invasion, or the long-term social and economic changes. Only a significantly smaller part of settlements with direct written sources about their destruction or excavated sites with traces of particular destruction features and strong dating evidence (e.g., coins dated to the invasion period) can

10 Kubinyi and Laszlovszky, "Demographic Issues," 54.

11 F. Romhányi, "Gondolatok" (in print).

12 Kubinyi and Laszlovszky, "Demographic Issues," 50–52.

be connected to the event itself.¹³ Nonetheless, the endless debates about what percentage of the population died in the invasion remain purely hypothetical and thus are essentially a futile exercise. Spatial patterns of destruction, however, can give us a better idea of which areas were most heavily affected, and which areas were lightly affected.

While the exact number of victims must remain a mystery, the surviving contemporary sources clearly describe a cataclysm of unprecedented character—essentially, a wholesale destruction of the people of Hungary. Moreover, the reconstruction of the event has up to recent decades relied almost exclusively on these textual sources, mainly narratives and charters. An exceptional source, the *Carmen miserabile* of Master Rogerius,¹⁴ written shortly after the events, has long played a crucial role in reconstructing the story of the invasion. This work, written in Latin by a high-ranking churchman taken prisoner by the Mongols, describes a litany of atrocities committed by the invaders, violating contemporary European notions of what was permissible in war,¹⁵ with the authenticity of an eyewitness perspective. This and the other contemporary sources, including those written in other European states,¹⁶ and even far outside of Europe,¹⁷ suggested that the Hungarian Kingdom almost collapsed in 1241–42 amidst an orgy of slaughter. For instance, Rogerius wrote, “Behold, during that summer [1241] they destroyed everything all the way to the borders of Austria, Bohemia, Moravia, Poland, Silesia, and Cumania as far as the Danube.”¹⁸ After the Mongols managed to cross the Danube the following winter, the destruction on the other side of the river was similarly extensive if we judge solely by the account of Rogerius, which states that when the Mongols suddenly withdrew, only the citadel

13 Ibid., 53.

14 For the critical edition and translation, see: Bak and Rady, *Master Roger's Epistle*.

15 Ibid., 168–69. Rogerius often remarked with horror that the Mongols “did not pardon sex or age” in their massacres, and he was not alone in this observation. As Johannes Gießauf notes, the Mongols may well have employed unprecedented cruelty as a tactic to demoralize their enemies and stifle resistance. Wholesale massacres of prisoners and the use of prisoners as essentially “arrow fodder” in attacks on enemy defenses were some of the ways that Mongols sought to disseminate a fearsome reputation. See: Gießauf, “A Programme of Terror and Cruelty,” 89–96.

16 Engel, *The Realm*, 100.

17 Boyle, *Genghis Khan*, 270–71. Juvaini writes that none of the Hungarian force escaped the Battle of Muhi and that Hungary was subjugated; Song, *Yuan Shi*, 2978. See also: Pow and Liao, “Subutai,” 37–76. This article on the famed general provides the first complete, annotated translation of both biographies of Subutai [Sübe’etei] in the *Yuan Shi*. These record that Hungary was defeated, and its city was conquered, before the Mongols withdrew.

18 Bak and Rady, *Master Roger's Epistle*, 214–15.

of Esztergom, the city of Székesfehérvár, and the monastery of Pannonhalma were still holding out: “Only these three places remained unconquered in that region.”¹⁹ Describing what he saw as a prisoner, taking part in the march back across Transylvania during the withdrawal, he wrote, “With the exception of a few castles, they occupied the whole country and as they passed through they left the country desolate and empty.”²⁰ The image of a formerly populated and prosperous country reduced to a desert appears repeatedly, and Rogerius was not alone in offering this picture of catastrophic defeat and depopulation. Thomas of Split, another contemporary churchman, described how the invaders “wasted the whole realm of Hungary with their raging sword” and how “bodies lay scattered over the fields, and the corpses of the common people lined the roads in countless numbers” in the ensuing famine.²¹ Nor were the authors of the major narrative accounts solely responsible for the portrayal of the total destruction of the country and its population. Chroniclers sometimes noted in their brief entries for the year that the Kingdom of Hungary had been “destroyed” in the sense of being obliterated from continued existence. Béla IV, writing to the pope several years after the Mongol withdrawal, reported that his kingdom had been “reduced to a desert by the scourge of the Tartars.”²²

The image of thorough and evenly spread destruction throughout the Kingdom of Hungary is quite pervasive in the textual records. However, new findings paint a rather different picture of a very uneven distribution of destruction throughout the kingdom, which requires us to ask why medieval authors were so keen to portray the devastation as uniform and *total*. It is important to remember that the authors had motivations and were often in a loose sense confined by the rules of *genre*. Put another way, a clergyman or king, bewailing the suffering to which he and the people of Hungary were subjected, might not take a nuanced approach in determining the exact scope of destruction afflicted on the country on a region-by-region basis. Thus, it is essential for historians to use the sources cautiously, not rejecting the textual material with the sort of hyper-skepticism that causes researchers to divest themselves of useful information for reconstructing past scenarios, but rather to use them in connection with findings from archaeological sites with destruction features, hoards, and settlement archaeology, broadening our picture of the events.

19 Ibid., 218–19.

20 Ibid., 220–21.

21 Karbić et al., *History of the Bishops*, 302–3.

22 Rosenwein, *Reading the Middle Ages*, 419.

A vast number of new sites and excavated features are being discussed, with interdisciplinary approaches increasingly being used to better resolve lingering questions surrounding the process of the invasion,²³ and helping to document the real evidence of its brutality.²⁴ Recent finds show villagers seeking shelter in the oven of a house,²⁵ unburied corpses in ditches,²⁶ casualties of battle,²⁷ people slaughtered regardless of age or sex, corpses buried haphazardly in the ruins of a burned house, and corpses of those who might have died of epidemics and starvation.²⁸ Very recent finds detail the concentrated massacre of young females and evidence of cannibalism.²⁹ The shocking brutality of indiscriminate slaughter and the resultant trauma likely drove contemporary authors to emphasize the totality of the destruction. Besides the evidence of mass-killing, many coin and treasure hoards that were discovered during the last century have been connected to the Mongol invasion.³⁰ Moreover, research revealed another important aspect of the events, namely, that burned settlements with features of destruction and desertion processes can be connected to the hoard sites, and the spatial distribution of these areas can be interpreted in the context of the invasion because the areas in which they are concentrated are quite well-defined. (Map.1)

The discovery of coin hoards connected to the invasion is revealing about the areas most affected by Mongol attacks. Hoards are related to destruction in the sense that they were buried as a response to the invaders, but there are different kinds of hoards in the period (coin hoards, jewelry, mixed hoards, iron objects) and they represent a complex relationship to the military events. The spatial distribution of coin hoards is also a result of the scale of a money economy in an

23 Laszlovszky et al., “Reconstructing the Battle of Muhi,” 29–38.

24 In discussing archaeological results, special emphasis should be on the Great Hungarian Plain, and for the important works on that, see: Rosta, “Pétermonostora pusztulása,” Gyucha and Rózsa, “Egyesek darabokra vágva;” Tóth, “A tatárjárás korának pénzzel keltezett;” Wolf, “Régészeti adatok.” For how settlement patterns and spatial data can be used to shed light on the issues of destruction and recovery, see: Romhányi, “Kolostorhálózat;” and Romhányi, “Gondolatok,” (in print) on the papal tithe list; and Romhányi, “Changes of the Spatial Organisation,” for a discussion regarding the Carpathian Basin.

25 Gulyás, “Egy elpusztult tatárjárás kori ház,” 31, 52–53; Laszlovszky, “Material Remains,” 1–3.

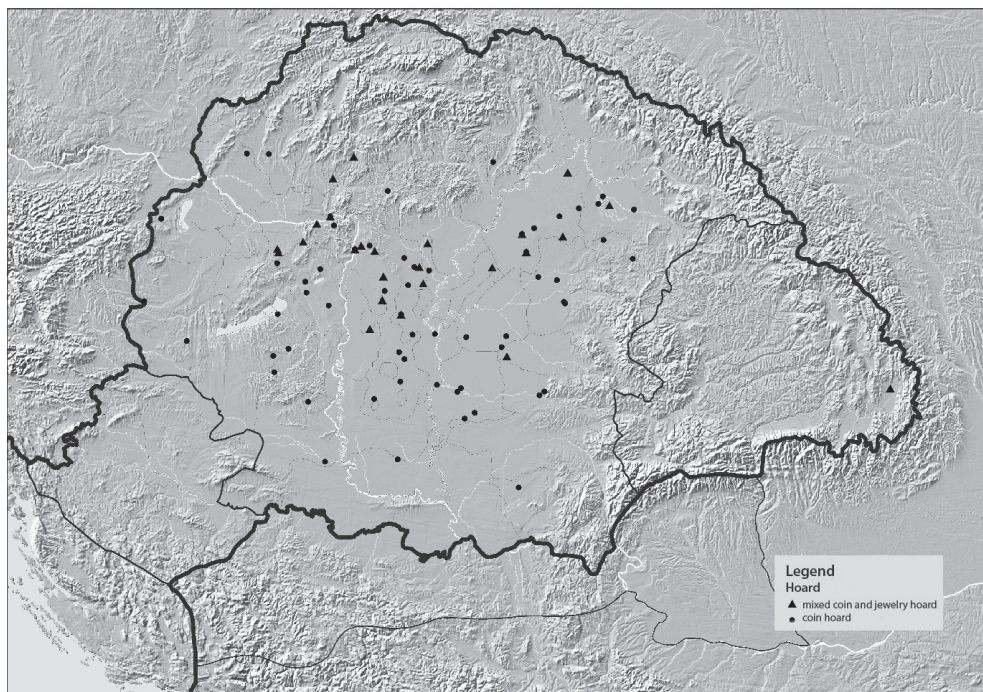
26 Gulyás, “Egy elpusztult tatárjárás kori ház,” 43.

27 Laszlovszky et al., “Reconstructing the Battle of Muhi,” 33–34.

28 Wilhelm, “‘‘Akiket nem akartak karddal elpusztítani,’’” 92, 93; Rosta, “Pétermonostora pusztulása,” 208.

29 Yet unpublished findings came to light in 2016 on excavations done by Szabolcs Rosta and Gábor Sz. Wilhelm (Katona József Múzeum, Kecskemét). Kind information of the researchers. On the topic of reports of cannibalism, see: Guzman, “Reports of Mongol Cannibalism;” Schmieder, “Menschenfresser.”

30 Tóth, “A tatárjárás korának pénzekkel keltezett,” 79–90.



Map 1. Distribution of hoards found in Hungary connected to the invasion
(Image courtesy of the Hungarian National Museum)

area, while other types may represent different economic and social contexts.³¹ Mapping the sites where they have been discovered reveals, however, that most of the hoard finds were concentrated in the Great Hungarian Plain, namely, in its northeast and central parts. The corpses that show signs of being connected to the invasion—unburied, buried offhand in hasty fashion, or victims of what appears to be mass murder³²—are also concentrated in the same region. The only site in Transdanubia (the western side of the Danube) showing this type of violence that has so far been connected to the Mongol invasion, a one-time farm or manor located near Dunaföldvár,³³ is also related to the concentration of other mass murder sites. It is on the right-bank part of a heavily used ford on the Danube, so the destruction there is like related to a successful Mongol attempt to cross the river. The locations where Cumans subsequently settled, as previous research has clearly demonstrated, is also connected to the most devastated areas, and beside the central part of the Great Hungarian Plain, the

31 Vargha, *Hoards*, 27–29.

32 Pusztai, “Buzogánnyal, tarsollyal és késtok-merevítővel,” 141.

33 Szilágyi and Serlegi, “Nád közé bújtak,” 127–40.

small eastern region of Transdanubia, where the find was made, also became a Cuman settlement.³⁴

Regarding the spatial distribution of destruction and its concentration in certain areas of the Kingdom of Hungary, the build-up of evidence and lack of finds in certain areas continues to reinforce conclusions about an uneven pattern of destruction, concentrated heavily on the Great Hungarian Plain. Many rescue excavations were made in the last two decades in various sites, among them a large number in areas that had never been investigated previously. Thus, the lack of finds in specific regions cannot be explained any longer by a lack of research. In fact, the contemporary textual evidence supports this picture of the Mongol army mainly plundering and devastating the Great Hungarian Plain. Their details concerning the nature of the Mongol occupation, at least the account of Rogerius and a letter of Béla IV to the pope dated to January 1242,³⁵ corroborate this version of events.³⁶ The latter document emphasized that the Mongols had not yet crossed the Danube—mere months before their evacuation of the Carpathian Basin. This had much to do with the fact that Hungarians on the western side of the river were still capable of putting up resistance until the river froze, around the time the letter was written, enabling a crossing.

Archaeology supports another facet of the account of Rogerius. He detailed how peasants from 70 surrounding villages in the Great Hungarian Plain gathered at a “new village” called Pereg, evidently to bolster their ability to resist. The Mongols only took it after a week, having filled up the moat.³⁷ Recently, a number of sites with enormous ditches around churches have been found in the Great Hungarian Plain.³⁸ Evidently villagers were gathering at these sites for mutual defense, but in all cases, the settlements appear to have fallen to the invader. Sites in the open plain lacked natural defenses, and when combined with the length of the time the Mongols had to conduct their attacks on these points over the course of 1241, they proved unable to hold out. It seems that it was difficult for people in an open plain to escape. Simon of Saint Quentin, a Dominican emissary to the Mongols, detailed Mongol methods of

34 Hatházi, “A kunok régészeti.”

35 Nagy, *Tatárjárás*, 176.

36 Both documents often use rhetorical terms of total destruction but demonstrate in their details that the Mongols did not cross the Danube until relatively shortly before their withdrawal.

37 Bak and Rady, *Master Roger's Epistle*, 210–13.

38 Recent results of the archaeological investigations were summarized by Szabolcs Rosta at the conference of young medieval archaeologists in 2017. Accessed October 6, 2018. <https://mnm.hu/hu/esemenyek/fiatal-kozepkoros-regeszek-konferenciaja-2017>.

carefully planting ambushes for fleeing refugees, blocking access to mountains and woodlands that might offer defensive hideouts.³⁹ They employed hunting tactics in war; Rashid al-Din reported that they advanced against Europe in *jerge* formation, a hunting circle or battue, when the campaign commenced.⁴⁰

Based on the above points-of-view we can draw a conclusion that the central parts of the country were much more devastated than other regions of the kingdom. However, the Great Hungarian Plain was likely not the most densely populated part of the country.⁴¹ Furthermore, the textual sources attest that only some of the victims of the Mongol invasion died in battle, sieges, or massacres. Many of them lost their lives while escaping or in the famine triggered by upheaval of the year-long occupation.

While population size and loss during the invasion must remain in doubt, the uneven regional distribution of both is evident. Reasons for this in part stem from the way the Mongols advanced as well as how they waged war. One viewpoint is that the Mongols confined themselves largely to advancing along the main roads of the Kingdom of Hungary, whereas another point of view contends that they did not follow roads but rather moved through the countryside.⁴² Our impression is that on the Great Hungarian Plain they were systematically laying waste to the entire region, going off the main roads, and thus there were few local people in the area who could escape them. On the western side of the Danube, in Transdanubia, the situation seems to have been different, judging by textual, archaeological, and settlement data. The occupation was shorter—only a few months in early 1242. Moreover, it appears that in western Transdanubia, particularly in the southwestern areas such as Somogy, along with Zala and Vas counties, the destruction afflicted by the invasion was minimal.⁴³ In some of these areas, the dense network of local churches, particularly brick churches, is an indicator of the lower level of destruction. The majority of these buildings

39 Simon of Saint-Quentin, *Histoire des Tartares*, 43–44.

40 Thackston, *Rashiduddin*, 327. The term *jerge* or *nerge* was a term used in Mongolian of the imperial period for forming a row or column but implied the use of a hunting ring, or battue, as a strategy for hunting game. In the context of warfare, it meant an encircling movement. See: Allsen, *The Royal Hunt*, 26. For details on the military application of the *nerge* formation and the steppe tradition of hunting as military training, see: May, *The Mongol Art of War*, 46–47.

41 Selmeczi, “A 13. század második felének,” 319.

42 Wolf, “ Régészeti adatok,” 22–26, specifically 23. Wolf recently contributed, along with many of the other scholars featured here, to a popular archaeology magazine with a heavily modified article related to her earlier work. That issue of the magazine reflects much of the latest research on the invasion.

43 Szilágyi and Serlegi, “Nád közé bújtak,” 135.

can be firmly dated to the thirteenth century, so before or after the invasion.⁴⁴ This implies that they were either not destroyed during the invasion, or they were built afterwards, which also means that the village communities were not devastated, and they were able to build new churches or renovate wooden ones in brick. Evidently the dense woodlands in that region, which remained until the fourteenth century,⁴⁵ offered refuge for the populace. We see a similar situation in the heavily wooded parts of what is today's Slovakia—in the Spiš region, for instance. The Mongols did go into these areas, but it seems that they mainly passed through or confined their attacks to targets along the main roads, quite unlike the situation that unfolded over the Great Hungarian Plain throughout the occupation. In Transdanubia the textual sources support the findings of damage inflicted along the main road or on major targets like Pannonhalma.⁴⁶

It is clear as well that southwestern Hungary was the last part to be attacked and so the damage there was, again, quite limited. One piece of evidence comes from the events that followed the Mongol withdrawal. The vigorous and effective action Béla IV took against Friedrich II Babenberg of Austria almost immediately to recover his western territories, as well as the Hungarian king's ongoing struggle to acquire the Babenberg heritage after Friedrich's death in 1244,⁴⁷ are surprising if we imagine that Hungary's entire military was destroyed only a few years beforehand. This suggests that Hungary still had a base of military power in the western part of the country—likely comprised of forces that had not taken part in the Battle of Muhi. Moreover, the southwest region of Hungary may have been, both before and after the Mongol invasion, the most populous part of the entire kingdom; that was certainly the case in the fourteenth century.⁴⁸ This is another clue that the area had not been heavily affected by the Mongols.

In general, the level of resistance appears to have been greater than what is suggested in the main narrative sources of Rogerius and Thomas of Split.

44 Valter, *Árpád-kori tégltemplomok*, 87–88.

45 Szabó, "The Extent and Management of Woodland," 226.

46 About the situation in Transdanubia, shortly after the Mongols had crossed the Danube, we have three letters sent to the pope (not yet elected at that time). One of them was sent by prelates gathered in Székesfehérvár, while the others were written by Abbot Uros of Pannonhalma. See: Györfy, "Újabb adatok;" Thomas of Split compared the destructive but quick advance of the Mongols through Transdanubia to a summer hailstorm and noted that destruction was limited. See: Karbić et al., *History of the Bishops*, 290–91.

47 Szende, "Harc a Babenberg örökségért," 290–94.

48 Kubinyi and Laszlovszky, "Demographic Issues," 57; Szabó, "The Extent and Management of Woodland," 226.

The more effective resistance in Transdanubia was made possible in large part by the Danube. A few years after the invasion, in his letter to the pope, Béla IV emphasized the strategic value of the river, noting that during the invasion it had functioned as a strong fortified line, enabling the outmatched Hungarian defenders to repel the Mongols for ten months.⁴⁹ We should not think that the river by itself could have played this role since the sources from a wide range of societies attest that Mongols could cross even larger rivers without their presenting a serious problem—though, in fairness, they intentionally waited for them to freeze in their earlier campaign against the Russian principalities, as was attested by Friar Julian.⁵⁰ Evidently the entire Hungarian army was not annihilated at Muhi though the losses were great and comprised important royal and ecclesiastical contingents. Yet, even Rogerius stressed how several unwilling nobles ignored the call to muster in the lead-up to the battle or managed to escape. For instance, Count Ladislaus of Somogy, who was rushing to aid of the king, received the news of the defeat and fled with his men and the contingent of the Bishop of Pécs, who narrowly escaped from the Hungarian camp.⁵¹ Bishop Benedict of Oradea also escaped with his troops across the Danube before the battle.⁵² The strong resistance of the citadel of Esztergom, which held out, suggests that valuable military forces remained in the country.⁵³ Rogerius also acknowledges that the Mongols did not cross the Danube earlier than they did because the fords were vigorously defended on the other side with troops even breaking up the ice or fighting on it daily.⁵⁴

The intensity of resistance and the number of fortified settlements caused problems for the Mongols even in the eastern parts of the country. Although Mongol armies are recorded to have had much experience besieging large fortifications (e.g. Kiev, Kaifeng, Baghdad), their forces in Hungary probably were not expecting a situation in which even villages, such as Pereg, were fortifying themselves and resisting. In the Great Hungarian Plain with its looser settlement network, the Mongols were forced to besiege at least five strongholds between Oradea (Nagyvárad) and Cenad (Csanád): besides the two bishopric

49 Rosenwein, *Reading the Middle Ages*, 421.

50 Göckenjan and Sweeney, *Mongolensturm*, 104–5. On the strategic problem of crossing rivers and the approaches employed by nomadic armies, see the most detailed study on this under-researched topic: Felföldi, “A nomád hadviselés,” 75–91.

51 Bak and Rady, *Master Roger's Epistle*, 184–87.

52 *Ibid.*, 180–81.

53 *Ibid.*, 218–19.

54 *Ibid.*, 214–15.

centers, there was Tămaşda (Tamáshida), an unnamed island in the Körös River,⁵⁵ and the Cistercian Abbey of Igrış (Egres). Once the Mongols crossed into Transdanubia in early 1242, the situation became considerably worse. A letter from the Hungarian defenders of many different castles, monasteries, and towns, written in 1242, asked for military aid from Rome. Nevertheless, the defenders described a well-planned defense in response to the Mongols crossing the river and voiced confidence in their ability to repel the invaders from their strategic positions.⁵⁶

In general, the large narrative accounts of the invasion portray a different image of the effectiveness of resistance compared to the aforementioned letter or the charters of the king which often commemorated the heroic actions of various noblemen and the citizens of towns. Thomas of Split for instance referred to the “useless preparations” made by the citizens of Pest to defend their town against the Mongols.⁵⁷ Rogerius seemed ready to describe any defeat of Hungarian forces, no matter how insignificant. Currently the big narratives, and the lamentations of rulers and clergymen over what we today would call a humanitarian disaster, seem to take precedence in international literature over the charter evidence. Yet, it is a byword of Hungarian medievalists that the country’s history is reconstructed from charters. It is our view that when these two types of documents are juxtaposed, we see a rather more balanced picture of the level of Hungarian resistance. If more emphasis is given especially to Béla IV’s brief mentions of acts of resistance,⁵⁸ successful examples of people crossing the Danube to aid their countrymen,⁵⁹ and otherwise unrecorded victories over contingents of the invaders,⁶⁰ the image we have of the progress of Mongol invasion changes markedly.⁶¹ Furthermore, in scholarship there is a tendency to connect any sign of devastation or decline to the Mongol invasion. Deserted

55 Rogerius mentioned briefly staying on this fortified island with other refugees from surrounding villages. See: Bak and Rady, *Master Roger’s Epistle*, 200–3.

56 Göckenjan and Sweeney, *Mongolensturm*, 293–95.

57 Karbić et al., *History of the Bishops*, 274–75. On the sacking of Pest, see: B. Szabó, “The Mongol Invasion.” Despite sensational descriptions of the destruction of the city and its population, the author notes that archaeology has not so far yielded evidence of these events.

58 Nagy, *Tatárjárás*, 180. Béla IV praised, for instance, the resistance of six castle officers of Trenčín for their successful repulsion of Mongol attackers in a charter dated to June 2, 1243.

59 Ibid., 193. Béla IV praised an official, Geregye Nembeli Pál, for hurrying across the Danube River to aid those on the other side soon after the Mongols departed.

60 Ibid., 185. In this particular letter, Béla IV praises three castle officers (*jobagiones*) for their successful resistance and saving many lives at a certain mountain fortress.

61 For an important selection of some of these letters and charters, see: Nagy, *Tatárjárás*, 180–96.

villages, building phases of churches, and the dating of liturgical objects from Limoges were connected directly to the devastation of Hungary.⁶² More recently many of the proposed connections between the destruction of the invasion and certain archaeological features have been questioned.⁶³

The Short- and Long-Term Impact of Environmental and Climatic Changes on the Mongol Invasion and Hungary's Recovery

The role of climate is increasingly recognized as having a major influence on historical events, and climate data is being used to offer new interpretations. Climatic connections to the development of the Mongol Empire are a topic of important recent studies.⁶⁴ Recently, Büntgen and Di Cosmo offered the viewpoint that a short-term climatic fluctuation in early 1242, characterized by cold and wet weather, was the primary driver behind the Mongols' decision to abruptly withdraw in 1242.⁶⁵ We do not disagree with their interpretation of the climatic trend, but we disagree about it being the main cause for the withdrawal. While the present article does continue to look in part at the role of environmental and climatic issues connected with the Mongol invasion, the aim here is not to perpetuate a debate focused solely on a single historical episode. The recognition of the importance of exploring environmental issues related to pasturage, raised by Sinor in 1972,⁶⁶ and the usage of climatic data in addressing the problem of the Mongol withdrawal, represent an intention to shed light on historical events of great significance for global history. Researchers seeking answers to complex questions (related to the level of destruction, the reasons

62 Kovács, *Limoges-i zománcok*.

63 Wehli, "A magyarországi művészet," 478–79. Previous literature argued that the Limoges objects arrived in Hungary after the destruction inflicted by the Mongols and were used to replace the missing or lost liturgical objects. See especially the work of Éva Kovács. More recently this dating of the Limoges objects has been questioned and some in Hungary are dated before the Mongol invasion. See: Biczó and Kiss, "Limoges-i tál Bátmonostorról," 75–76.

64 For a representative and important article on climate's role in the Mongol Empire's emergence, see: Putnam et al., "Little Ice Age Wetting?"

65 Büntgen and Di Cosmo, "Climatic and Environmental Aspects," 1–9.

66 Sinor, "Horse and Pasture," 171–83. Sinor's view was that the Great Hungarian Plain simply could not support the number of horses and other livestock which the Mongols would need to occupy Hungary. His 1972 estimation, based on American horse-breeding statistics and the assumption that each Mongol soldier required an average of three horses, was that the Great Hungarian Plain could not support a Mongol force larger than 68,640 troops. Decades later, Sinor had revised his calculations, estimating that Hungary could support 83,027 Mongol occupiers. For a detailed comparison of his estimates, see: Pow, "Climatic and Environmental Limiting Factors."

for the withdrawal, the consequences of the invasion, etc.) obviously should use the full variety of tools and perspectives available to gain insight into the historical past.

A key issue in looking at the role of environmental influences on the events of the Mongol invasion pertains to the well-documented famine. Shortly in the aftermath of the Mongol invasion, severe famine affected the local Hungarian population and Büntgen and Di Cosmo view this as a result of the short-term wet and cold spell in 1242. As such, the issue affected the local population but also the Mongols who opted to withdraw, owing in part to the problem of feeding troops and animals alike. Taking a short-term perspective on this episode, the textual material stemming from contemporaries makes it very hard to accept that the famine was not a man-made phenomenon. Thomas of Split viewed it as the direct result of the displaced peasantry being forced to abandon their crop fields for two growing seasons—first they had been unable to harvest in 1241 and then they were unable to sow in 1242.⁶⁷ Rogerius, a prisoner in the Mongol camp, noted that some peasants had been allowed to harvest certain crops but only to supply them to the Mongols in 1241.⁶⁸ Jan Długosz, who wrote his chronicle much later but who recorded a number of valuable and unique pieces of information, noted that the draught animals had all been seized by the Mongols so that in the aftermath of the invasion, peasants desperately yoked themselves to ploughs in attempt to resume planting.⁶⁹ Naturally if the farmers were unable to cultivate crops because they could not stay on their fields owing to the disruption and danger of the invasion, and if their draught animals had been looted, serious famine was going to set in.

It should not surprise us that the sources testify to widespread starvation among the Hungarian population after the Mongols left if we take a broader view of the Mongol conquests beyond the borders of Hungary. Shortly after the invasion, a Dominican emissary, Simon of St. Quentin, was sent into the Mongol Empire to contact their leaders on behalf of Pope Innocent IV. He passed through many regions that had been affected recently by invasions and eventually met with the Mongols in Armenia. In his report, in a section detailing Mongol methods of waging war, he was emphatic: “In every country which the Tartars destroy, famine always follows.”⁷⁰ What his report would suggest

67 Karbić et al., *History of the Bishops*, 302–3.

68 Bak and Rady, *Master Roger's Epistle*, 210–11.

69 Długosz, *Ioannis Długossi Annales*, vol. 4, 59.

70 Simon of Saint-Quentin, *Histoire des Tartares*, 44.

is that Mongol invasions consistently triggered famine in all the affected areas, far beyond Hungary. The famines the Mongols triggered were intentional—a sort of weapon to crush resistance. When we consider Simon’s testimony, it is hard to entertain the notion that the starvation which affected Hungary’s people in 1242 was the result of a short-term fluctuation in climate, or even a unique experience for populations that had experienced a Mongol invasion.⁷¹

Taking the long-term perspective on the impact of climate on the invasion and its aftermath, recent studies suggests that famine on such a scale was an extremely unusual phenomenon in Hungary in the period—in fact, even the Little Ice Age did not cause a countrywide famine.⁷² Yet, climatic and environmental changes were having an impact. The years of the Mongol invasion (1241–42) belong to a substantial transformation period of the climate regime when we detect the first traces of what has been identified as an early phase of the coolest period in written history. Tree ring-based temperature reconstruction from the Eastern Carpathians shows that summers and winters became cooler in the mid-thirteenth century for a sustained period.⁷³ Using archaeobotanical remains, a hydroclimatic reconstruction suggests that the decades between 1241–1301 in the Great Hungarian Plain became significantly more humid than in the preceding two centuries, and this higher level of humidity was permanent during the fourteenth and fifteenth centuries.⁷⁴ Palaeoglaciological reconstructions from the heart of the Alps reveal a warming phase with a low tide of glaciers in the mid-thirteenth century, while a cooling phase with significantly growing glaciers around 1300 marks the onset of the Little Ice Age.⁷⁵ The extraordinarily cold winter of 1241–42 also speaks to the structural transformation of the climate regime in Central Europe. That a short deviation in temperatures became something of a decisive factor during the Mongol invasion in Hungary is clear. As mentioned, after the battle of Muhi, the Mongols had been blocked on the line of the Danube River for roughly nine months. Despite the efforts of the Hungarians, who defended the western part of the river and regularly broke the ice during the severe winter, the Mongols were at last able to cross the ice

71 Civilian populations resorting to cannibalism in China are documented in the biographies of Subutai. See: Pow and Liao, “Subutai,” 62; The Hungarian population was also reduced to this, with Długosz noting that mothers ate their own children. See: Długosz, *Ioannis Dlugossi Annales*, vol. 4, 50. For the latest archaeological findings in Hungary that corroborate the accounts, see footnote 29.

72 Kiss et al., “Rossz termések;” Kiss, “Az 1507(–1508). évi inség.” See also: Fara, “Crisi e carestia.”

73 Popa and Kern, “Long-Term Summer Temperature Reconstruction,” 1107–17.

74 Pinke et al., “Zonal Assessment,” 110.

75 Holzhauser et al., “Glacier and lake-level variations,” 792.

on horseback and resume their conquests.⁷⁶ So climate is documented to have played a decisive role in the course of the invasion—it just seems to have worked to the strategic advantage of the Mongols rather than the Hungarians.

The effects of the climatic change can also be studied in a later period, which is much more characterized by economic recovery and population increase. In short critical episodes, e.g., in the 1310s⁷⁷ and the 1330s,⁷⁸ the evident medieval climatic change could have certainly presented serious challenges for the population, mainly related to higher floodwater levels.⁷⁹ Nonetheless, Hungary lies at the western border of the steppe belt with warm summers and a relative dearth of precipitation for crop production, so that the most powerful limiting factor for agricultural production was drought, even during the Little Ice Age.⁸⁰ Thus, in the long-term, the mid-thirteenth-century climatic shift provided more optimal cool and humid conditions for agriculture than earlier. This point identifies a bio-climatological factor behind the fourteenth and fifteenth century's period of prosperity for Hungary's agriculture and its agriculturally based economy.

The direction of the long-term transformation of climatic features in the Hungarian Kingdom had another substantial effect on social organization. Landscape historical research has demonstrated a significant rise in the altitude of settlements in various regions from the eleventh–thirteenth centuries to the fourteenth–sixteenth centuries, e.g., in the Trans-Tisza region,⁸¹ in the Kalocsa-Sárvíz,⁸² and on the southern shore of Lake Balaton.⁸³ Árpáadian-age settlements were generally built at a lower altitude above-sea level than late medieval ones, and the areas suitable for establishing settlements shrank by the fourteenth–fifteenth century. All these phenomena and some archaeological surveys of abandoned settlements suggest that the environment could have been a protagonist among drivers behind the transformation of the settlement network in the Great

76 Bak and Rady, *Master Roger's Epistle*, 201, 205, 222–25.

77 Kiss et al., “Rossz termések,” 27.

78 Ibid., 49.

79 For a comprehensive overview, see: Vadas, *Weather Anomalies*; Kiss, *Floods and Long-Term Water-Level Changes*.

80 Kiss, “Droughts and Low Water Levels,” 51–54. Losses of sheep, grain, and bees were particularly mentioned.

81 Pinke et al., “Zonal Assessment,” 109.

82 Knipl, *A Duna-Tisza-közi Hátság*, 91–93.

83 Mészáros and Serlegi, “The Impact of Environmental Change,” 205.

Hungarian Plain and the depopulation of certain regions of the landscape.⁸⁴ The massive desertion which is evident during the period could have begun as early as in the first half of the thirteenth century and the process did not end before the first half of the fourteenth century. Thus, the Mongols did not solely initiate the regional settlement changes, but they gave a very drastic impulse to what was in fact a longer transition. Otherwise, after the withdrawal of Batu Khan's army, the Hungarian king could have carried out reforms to bring about a resettlement of the depopulated region, besides coping with the population losses and destruction.

The Reasons Behind the Mongol Withdrawal in 1242

Greg S. Rogers, noting that it was still a topic of debate which had not yielded a single, satisfying explanation, offered a systematic look at theories for the Mongol withdrawal from Hungary. Writing over two decades ago, he organized the existing theories for the withdrawal into four broad categories. First was the long-standing “political theory” that a succession crisis, precipitated by the death of Ögödei Khan in December 1241, forced the withdrawal. This is mostly based on the explanation which Carpini provided in his report, a few years after the invasion.⁸⁵ Secondly, there was the “geographical theory” of Denis Sinor, which offered an explanation rooted in environmental determinism, namely, that the Mongols withdrew because the Great Hungarian Plain offered insufficient fodder for their herds, and they would have had to limit the size of their army to the point that an effective conquest was impossible.⁸⁶ Then there was the “military weakness” theory which suggested that stiff resistance during the entire western campaign through Kipchak and Russian territories, and subsequently in East-Central Europe, deterred the Mongols from continuing. Rogers noted there were aspects of the literature which supported it, but also pointed out the all-too obvious reasons why this theory might appeal to some modern scholars.⁸⁷ Lastly, there were ideas which can be grouped into a “gradual conquest” theory which holds that the invasion was intended as an exploratory raid rather than a

84 Pinke et al., “Zonal Assessment;” See also: Campbell, “Nature as Historical Protagonist.” Concerning the Great Hungarian Plain, see: Vadas, “Late Medieval Environmental Changes.”

85 Rogers, “Historians’ Explanations,” 9.

86 Ibid., 10–11.

87 Ibid., 12–14.

permanent occupation or conquest.⁸⁸ He then pointed out the criticisms levelled at each theory which showed that all had problems that prevented any uniform agreement among scholars.⁸⁹

In the time since Greg S. Rogers wrote, novel theories have appeared, but they basically fall within the broad categories he established. Timothy May has suggested that in addition to the impetus to withdraw provided by the khan's death, the Mongols had a “tsunami” strategy of conquering in a series of invasions, rather than a single one, which suggests the “limited goals” theory was at play in the case of Hungary in 1241–42.⁹⁰ Büntgen and Di Cosmo's most recent “environmental hypothesis” seems grounded on the same principles as Sinor's theory, namely, that the environment of Hungary proved unsuitable to the Mongols for permanent occupation. The notable difference is that Büntgen and Di Cosmo suggested this resulted from short-term climate fluctuation which can be demonstrated through dendroclimatological methods, whereas Denis Sinor suggested long-term unsuitability based on a highly speculative calculation of the carrying capacity of Hungary—one that certainly is not supported by the livestock data of the Early Modern Period.⁹¹

In our view, taking a broad perspective relying on a wide range of data, any monocausal explanation appears to be insufficient to explain the withdrawal. However, what can be clearly observed is that there was more resistance to the invasion than has hitherto been acknowledged in scholarship, and a dichotomy exists between how surviving narrative sources and other textual sources, such as the rather overlooked charter evidence, present this resistance. Clearly, Mongol objectives were being foiled. Neither the king, nor even local conglomerations of peasants in many cases, submitted without fighting. By early 1242, the king had escaped to the sea and the Mongol prince, Qadan, was quite incapable of capturing him at Trogir, nor did the Mongols manage to reduce any other major strategic point in Dalmatia.⁹² The failure to achieve important goals and possible perceptions of the growing set of strategic problems, for instance, when they advanced into Transdanubia, may have convinced the Mongol leaders that it was best to withdraw for the time being. The fact remains that source materials, originally composed in Mongolian and surviving in the Chinese *Yuan Shi*, detail

88 Ibid., 14–15.

89 For a longer analysis of all four theories and further criticisms, see: Pow “Deep Ditches,” 12–45.

90 May, “The Mongol Art of War and the Tsunami,” 35.

91 Pinke et al., “Climate of Doubt,” 3.

92 Karbić et al., *History of the Bishops*, 298–301.

that the Mongols were rather fearful of the Hungarian army and their princes wished to flee from the country already during the Battle of Muhi in early 1241; they were only narrowly deterred from carrying out the plan.⁹³ This closely corroborates Carpini's account that the Mongols tried to flee during the battle, and were barely prevented from fleeing the country.⁹⁴ It is difficult to ignore a situation where Mongol and Latin sources corroborate one another. Thus, it is a very serious oversight if modern scholarship decides to discount *a priori* the possibility that local resistance could have played any role in the Mongol decision to withdraw in 1242. Of course, other factors such as rumors of the khan's illness in Mongolia and environmental factors could have played a role. Moreover, the withdrawal did not mark the end of the Mongols' interests in Europe and Hungary. Threats and ultimatums continued, and they returned in force to the kingdom in 1285.⁹⁵ The withdrawal may well have been a temporary measure initiated by a sense that the occupiers' strategic problems were worsening in early 1242, but it hardly marked the end of the Mongols' imperial ambitions in Europe and elsewhere. Indeed, many polities in the southeast of Europe submitted to the Mongols periodically during the second half of the thirteenth century.⁹⁶

Recovery: Political, Social, and Economic Changes in the Long-Term Perspective

One of the most notable signs of recovery that began immediately and continued in the decades after the Mongol withdrawal occurred in the military sphere. Historian Erik Fügedi found many examples in the charter evidence that contained Béla's stated intention to strengthen the kingdom and better protect its remaining people by creating policies that fostered the quick building of castles on suitable sites. While this wave of castle-building was well-known in Hungarian scholarship for at least a hundred years, Fügedi's own work first provided specific numbers; between 147 and 172 new castles were built between 1242 and 1300, and 22 towns with privileges were established in the first three decades of this flurry of activity. Fügedi was also careful to make the distinction between the "enthusiasm" for this building activity experienced by nobles who were granted incentives, increasing their own power vis-à-vis the monarch, and the ordinary populace whose frustration at bearing the labor

93 Pow and Liao, "Subutai," 66–67; Song, *Yuan Shi*, 2978.

94 Dawson, *The Mongol Mission*, 30.

95 Jackson, *The Mongols and the West*, 201–6.

96 Vásáry, *Cumans and Tatars*, 69–94.

and tax burden sometimes comes through in the extant records.⁹⁷ Moreover, his analysis, especially when manifested visually in the form of maps, reveals a rather unexpected and paradoxical trend. The vast majority of the castles built in the second half of the thirteenth century were not situated in the eastern and central plains of the country, which had borne the brunt of the Mongol occupation in 1241–42, but rather close to the western and northern borders of fellow-European rivals such as Austria and Bohemia.⁹⁸ This raises questions about intentions for the castles since renewed Mongol invasions would come from the east; the Mongols had merely based themselves on the *Dasht-i-Qipchaq* from which they continued to issue ultimatums and threats of attack.

The puzzling phenomenon of the location of castles can be explained foremost by the phenomenon highlighted in the first point of this discussion. Destruction was severe in some areas and light in others, and the areas, i.e. the western regions, which retained a strong population and economy were the most likely to have the means and necessity to carry out the huge investment of castle building. The distribution of castles has a loose inverse relationship to the distribution of sites showing concentrated signs of Mongol destruction. A second issue relates to the strategic suitability of sites for castle-building. The lessons of the first invasion evidently informed the survivors as to which sites were defensible. For instance, Lapis Refugii in the Spiš region became the site of a later Carthusian monastery after it had proven to be a useful improvised *Fluchtburg* during the events of 1241–42.⁹⁹ The emergence of the fortified hilltop town of Buda, as well, is one of the best indicators of this new process.¹⁰⁰

Béla IV's ability to wage war against his Austrian and Bohemian neighbors, and to interfere in Polish dynastic conflicts, in the immediate years after the Mongol withdrawal is not necessarily a sign that a significant depopulation did not occur during the invasion and subsequent famine, but he was still clearly capable of mobilizing sizeable military forces afterwards. A major factor in this was that he had recruited and settled large numbers of Cumans in his kingdom by 1246. The Prussian chronicler Nicolaus von Jeroschin, writing of Béla's defeat at the hands of Ottokar in 1260, claimed that Béla's army was composed of 40,000 knights—"mercenaries from many countries, according to what I

97 Fügedi, *Castle and Society*, 52–53.

98 *Ibid.*, 57–59.

99 Homza and Sroka, 148–53, 413–17, 450–55.

100 Nagy et al., "Medieval Buda in Context."

have heard.”¹⁰¹ Cumans supplied a strong military presence in the kingdom in the second half of the thirteenth century. Rashid al-Din, writing under Mongol auspices, described Hungary as a massive kingdom stretching from Cumania to the domains of Aquila and that its king commanded an “innumerable army.” Nonetheless, he contended that the Golden Horde’s Noqai had managed to conquer Hungary after attacking it incessantly.¹⁰² It is significant that Rashid al-Din’s description of the Hungarians’ innumerable army refers to his own context of the late thirteenth century and the Mongol invasion of 1285. While it exceeds the scope of this work to discuss that second invasion in detail, it should be mentioned that the Mongols encountered much more effective resistance which reveals that lessons from the first invasion had been learned.¹⁰³

Beyond military trends, looking at the long-term developments taking place in Hungary for roughly a century after the Mongol invasion sheds light on the events and their impact. There is a basic dichotomy in the historical interpretation of the period from the mid-thirteenth to the mid-fourteenth century concerning major processes taking place in Europe, particularly regarding crisis periods and the recovery following them.¹⁰⁴ In the long-term context, significant changes took place in Hungary following the invasion. In the second half of the thirteenth century, it adopted the social and economic innovations which made possible the thirteenth-century expansion and development in Western Europe (agricultural production systems, peasant economy, urban development), and further innovations appeared in the first half of the fourteenth century (*hospes* population, free land, new areas for colonization, etc.), a period characterized by social and economic resilience, including in an urban context.¹⁰⁵ The challenges of climate change in the period after the Mongol invasion remained at the local or small-scale regional level, unless man-made problems, namely, the side effects of war, contributed to the environmental stressors.¹⁰⁶ Probably the first period of largescale animal export to southern German towns and to northern Italy (Venice) contributed to Hungary’s favorable conditions; the

101 Fischer, *The Chronicle of Prussia*, 180.

102 Jahn, *Frankengeschichte*, 53. Jahn opined that Rashid al-Din’s mention of his own contemporary in the Golden Horde, Noqai, having conquered Hungary, means that this is a reference to the major 1285 invasion. Noqai was the commander of Mongol forces in that abortive invasion.

103 No major studies exist in English, but two excellent studies on this episode exist in Hungarian. See: Székely, “Egy elfeledett rettegés;” Szócs, “Egy második tatárjárás.”

104 Laszlovsky, “Per tot discrimina rerum;” 50–51.

105 Kubinyi and Laszlovsky, “Demographic Issues,” 61–63.

106 Kiss et al., “Rossz termések;” Fara “Crisi e carestia.”

growth and overpopulation of urban centers elsewhere worked as a positive factor in Hungary's development, as the relatively underpopulated kingdom started to become a major food exporter for these areas.¹⁰⁷ Other factors, such as intensification of silver and gold mining, contributed to Hungary's prosperity in a significant way.¹⁰⁸ The combined elements of a strong economy, such as its mines and animal husbandry-centered complex agrarian production, coupled with a stable political system and with regional cooperation of local kingdoms, resulted in a subsequent period of rapid development.

Conclusions

Based on the preceding discussion we can draw the following conclusions:

1. Regarding the destruction inflicted by the Mongol invasion, there is little reason to persist with the debate on whether it was a very low or very high percentage of the population that died as a result. There is no relevant source material which can be discussed in such precise terms, but the events following the withdrawal of the Mongols make us rather skeptical of higher estimates. New archaeological data combined with a wide range of sources can lead to very detailed spatial analyses pertaining to the level of destruction on a regional basis, as well as characteristic features of that destruction. The number of archaeological sites and data is continuously increasing, adding to our knowledge of the course of events. From the combination of data, we have to conclude that significant parts of the country were not heavily destroyed. Research on the hoards of the period and the medieval settlement, church, and urban network also support the conclusion that the destruction of people, settlements, and infrastructure was very unevenly distributed. Furthermore, the resistance of Hungarian forces, even after the defeat at Muhi, was significantly more sustained than has been suggested by previous scholarship, particularly in the western part of the kingdom.
2. In accordance with the preceding point, some of the destruction was connected to environmental issues, and the significant famine which appeared as the Mongols withdrew in 1242. That there was a unique environmental challenge is now clearly demonstrated not only by written

107 Laszlovszky, "Agriculture in Medieval Hungary," 90.

108 Laszlovszky et al., *The Economy of Medieval Hungary*, 29–30. The editors here discuss the range of scholarly theories on the drivers behind Hungary's late medieval recovery and prosperity.

evidence but also by climate reconstructions. Nonetheless, the balance of evidence suggests that it was basically a man-made famine, albeit one that could have been exacerbated by environmental changes that were taking place. This conclusion is especially plausible when we consider that the natural long-term changes were much more severe in the decades following the invasion, particularly the first decades of the fourteenth century, and still they did not create the issue of an enduring countrywide famine.

3. Regarding the reasons for the Mongol withdrawal in 1242, no monocausal explanation can be offered. There were a host of factors at play, but the basic issue seems to lie with the objectives of the Mongols. As the invasion progressed, they were unable to achieve key objectives like capturing the king or obtaining his submission. Sources from a Mongol perspective correspond with European accounts that they were already considering withdrawal at the Battle of Muhi, the numbers of the enemy were a problem, and they faced the real possibility of a coordinated counterattack from other hostile parties in the region. Stiff resistance is the one explanation with which we see these textual sources fully corroborate each other at points.
4. The long-term recovery of Hungary was a complex process, and facets of it were not so much initiated as catalyzed by the invasion. The 1285 invasion shows how much was learned from the initial experience, while Hungary proved capable of economic and military growth in the aftermath. The prosperity which Hungary and the surrounding region experienced in the following century, when many other parts of Europe were in deep crisis, suggests that the destruction of Hungary was partial and rather limited in many areas.

In the short-term context, the Mongol invasion of Hungary in 1241–42 was a brief historical episode, but one in which the nobility, clergy, and population of the country suffered an enormous shock. They encountered a little-known and poorly understood enemy—not a raiding band of steppe horsemen, but a well-organized and large army attacking the country with the intention to subjugate or destroy the population. Especially in the Great Hungarian Plain, their tactics inflicted profound destruction. Archaeological evidence now corroborates claims of mass murder affecting women and children.¹⁰⁹ Settlements were

109 This is based on recent archaeological work by Szabolcs Rosta which is underway. Kind information of the researcher.

burned, towns destroyed, and famine was intentionally caused which continued to claim casualties long after the Mongols left the country, having plundered its livestock. It is no wonder that the Mongol invasion imprinted such deep memories on the population.

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Environments of War

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