The Historical Landscape between Portugal and Castile at the End of the Middle Ages on the Riverbanks of the Douro: GIS Applied to *Demarcações de Fronteira* [*]

El paisaje histórico entre Portugal y Castilla a finales de la Edad Media en las orillas del Duero: SIG aplicado a las *demarcações de fronteira*

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Resumen: En este estudio, se pretende centrar la atención en el paisaje histórico alrededor del río Duero. Los valores regionales y locales de los elementos del patrimonio cultural medieval fueron explorados a partir del libro *Demarcações de Fronteira*, datado de 1537-1538. El objetivo

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es comprender los lugares y los testimonios medievales de las relaciones políticas, sociales y económicas entre los dos reinos medievales Portugal y Castilla. Un análisis documental pretende identificar y describir los elementos culturales, materiales e inmateriales, de un determinado lugar y de una determinada época e identificar elementos culturales que perduran en el paisaje actual. Paralelamente, un análisis cartográfico podría ayudar a la identificación, caracterización y localización del paisaje medieval.

Palabras clave: Paisaje; Frontera; Valle del Duero; Demarcación; Memoria.

Abstract: This study focuses on the historical landscape of the Douro River. The regional and local values of medieval cultural heritage elements were explored from "Demarcações de Fronteira" - a demarcation book dated from 1537-1538 - to understand the places and medieval testimonies of political, social, and economic relations between the two medieval kingdoms of Portugal and Castile. A document analysis is intended to identify and describe the cultural elements of a specific place and a particular time and discern resilient cultural features in the landscape. In parallel, a cartographic analysis could help to identify, characterize, and localize the late medieval landscape (beginning of the 16th century). This analysis is fundamental for comparing other periods and studying the landscape resilience.

Keywords: Landscape; Border; Douro Valley; Demarcations; Memory.

INTRODUCTION

Landscape(s), seen as place(s) of interaction between societies with natural attributes, are a result of daily life and human activities that create layers of cultural elements accumulated in time.[1] As a construction of *layers of the past*,[2] it is a historical buildup of human interactions in daily life occurrences in a specific place. These subsequent actions transform a space into a place where it is possible to identify material or immaterial structures that characterize different epochs.[3] Landscapes were created by local communities' social systems that produce tangible and intangible culture. This daily human actions over natural attributes, have an impact on the landscape. Some more resilient landscapes maintain its characteristics, while others show less persistence in this interaction, and the intangible individual perception is more determinant than the material.[4]

In this context, the landscape is not only a scenery where human actions take place, but it is also an important document to recognize the

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[1] Council of Europe, "European Landscape Convention".

[2] Stabbetorp et al., "Layers of the past".

[3] Furia, "Space and place", 540.

[4] Corsi, "Medieval landscape", 342; Terkenli "Towards a theory of the landscape", 206.

different historical ages, human behaviors, creations, actions and ways of living and its cultural, economic, social, and political sceneries over time.[5] Landscapes could be "read", analyzed, interpreted, valorized, characterized, and identified the noteworthy integrant elements.[6] As a document or as a scenery, the landscape could be perceived, analyzed, and studied to understand the past, through the identification of resilient cultural elements and living testimonies of this historical human action in a specific place.[7]

In this theoretical and methodological context, the main scope of this study is to analyze the late medieval landscape using a documental and content analysis from a book dating from 1537-1538 – *Demarcações de Fronteira* – which includes detailed descriptions of landscape and narratives from local communities that help to understand places and the main changes occurring over the years. Focusing on descriptions from the historical landscapes, this study aims to describe the Portuguese – Castilian border of the 16th century and the multiple sceneries perceived, with all their cultural and natural components, through the eyes of medieval inhabitants. It is intended to identify and recognize historical elements (natural or cultural), characterize the medieval landscape at the beginning of the 16th century as scenery and identify all cultural elements and social constructions that link the presence of the political limits between the two kingdoms and daily life. This documental and content analysis is also a methodological way to reconstruct the border. The concept of "border" or "frontier" is exposed as political, cultural, linguistic, religious, mental "lime", marks, and peripheries more or less permeable to the entrance of the "other."[8] The frontiers established between Portugal and Castille were a complex and slow process that defined territories and power separation that was more or less defined and clear. In those peripheral places, political, economic, social, and cultural local relations develop some characteristics and collaboratively construct different landscapes. A vast bibliography reflects the innumerous studies around the frontier and the concept that realizes the significant literature around this thematic.[9]

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[5] Antrop, "Why landscapes of the past are important", 22.
[6] Wells, Balwin "Historic preservation, significance, and age value", 385; Wijetunga & Sung "Valuing the cultural landscape", 669.
[7] Council of Europe, "European Landscape Convention".
[8] González Jiménez, "Relación final".
[9] Martín-Martín, "Conflictos luso-castellanos por la raya"; González Jiménez "Relación final"; Álvarez Llopis; Peña Bocos, "Limites y fronteras en el Norte Peninsular";

1. LANDSCAPE IN MEDIEVAL HISTORY: DOCUMENTAL ANALYSIS

Taking medieval elements and narratives as a focus, landscape analysis opens up the opportunity to distinguish medieval societies, daily lives and movements. This allows us to understand the historical values that offer meaning to places.[10] This analysis introduces a conservative reflection on medieval landscape cultural features and their historical structures, following recent studies.[11]

In another way, several studies follow documental analysis as a methodological way to explore landscapes to rebuild information from a historical period. These studies contemplate documents from the 18th or 19th century with a significant impact on the state of the art.[12] For the Medieval Ages, this methodological and thematic exploration is increasing.[13]

Landscape can be observed to increase historical information. Nevertheless, historical documents could be analyzed to support reconstructions of landscape evolution in medieval times and to open new opportunities to recover local memory and identity.[14] Additionally, this information from the medieval past is central to territorial planning and management from a sustainable perspective emphasizing the importance of history in the current local and regional development and new challenges.[15]

Historical landscape analysis combines different research methodologies such as cartographic documents, narratives, archaeological methods,[16] paintings, draws, aerial and historical photography,[17] and

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Monsalvo Antón "Espacios y fronteras en el discurso territorial del reino de Asturias"; García Fernández, Galán Sánchez, Peinado Santaella, "Las fronteras en la Edad Media hispánica".

[10] Freitas, "Paisagens e vivências na fronteira"; Stephenson "Tehe cultural values model".

[11] Freitas, Isabel Vaz, et al, "Water conservation in the urban landscape".

[12] Brůna et al, "Imapcts and underlying factors"; Gómez-Ortiz, et al, "Evidences from historical documents"; Tůmová, "Maps of estates in Bohemia"; Zaragozí et al, "A graph-based analysis".

[13] Chías & Abad, "Spanish landscapes in the Middle Ages"; Sanchéz-Pardo, et. al., "Exploring the landscape dimensions"; Fernandes, "Dos limites às fronteiras".

[14] Coelho, "A Idade Média. História. Memória".; Ribeiro, "A (re)construção da paisagem urbana medieval".

[15] Lanen, van Beek and Kosian, "A different view on (world) heritage", 203.

[16] Bezant and Grant "The post-medieval rural landscape"; Dias "Finis Portugalliae".

[17] Ridding et al, "Modelling historical landscape".

repeated photography over the years,[18] among others. Frajer[19] referring to historical cartography, argues that researchers could explore new perspectives over the past and understand some phenomena that face the precious historical cartographic information that it is possible to find in History.

A landscape with a deep ballast should allow us to understand day-to-day life on a border, the interactions of local communities, and the relations between political powers. A question arises: does the borderline exist or is it a political creation that materialized only when conflicts occurred?[20] In this medieval document, the border is a reality and is well demarcated to avoid conflicts. In *Demarcações de Fronteira*,[21] Afonso de Resende accurately describes the limits and landmarks he visited between July 1537 and June 1538 as an inquirer at the service of the Portuguese king, D. João III. This inquiry systematically focuses on villages along the border, in a journey that began in Castro Marim and finished in Valença. He remained, on average, 1 or 2 days in each village, occupying the town hall where it existed or settling in a local pension or one of the village houses.[22] He questioned the oldest or most knowledgeable about frontier demarcations as an inquirer. As a complement to the testimonies, he examined documents produced by local or central administrations that could specify written evidence of the places where the borderline was demarked and could answer any questions raised on the matter.[23]

In these medieval documents, it is possible to understand the neutral report of the territory without any personal appreciation from the authors of the description. A unique interpretation of the places could make the objective of this mission unfeasible and the design of the military strategy driven by central power. Afonso de Resende registered local descriptions as impartial viewers with a specific mission: to describe the limits and all essential elements in maintaining border security.[24] In this way, the inquirer documented the precise milestones of implantation places, the different landscapes and their main natural characteristics, the number of neighbours, the presence of castles and towers with or without walls, and

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[18] Meyer and Youngs, "Historical landscape change".
[19] Frajer et al., "The importance of historical maps", 196.
[20] Gonçalves, "Entre a Peneda e o Barroso".
[21] *Demarcações de fronteira,* Vol. III.
[22] Freitas, "Paisagens e vivências na fronteira", 248.
[23] *Ibid*.
[24] *Ibid*.

the boundaries of pacific or conflictive relations, among other relevant information, as a clear military evidence to measure Portuguese fragilities and strengths. He intends to give information to reflect if "*Society is organized for war.*"[25] in the border, castles, and other strategic defense elements needed to be active and with solid foundations for effective defense.[26]

To follow the analysis of the border landscape conducted in another previous publication, which focused on the study of the border landscape from Castro Marim to Montalvão,[27] the present study intends to reveal three very different territories with specific characteristics that marked this physical border in the north following the Douro River valley.

A Geographical Information System, QGIS 3.20 was used as a methodological tool. Geographical Information Systems (GIS) evolved from data storage and analysis software by acquiring space and time components. These tools enable the aggregation of data in different formats if they are georeferenced, making them an essential work tool, both for academia and everyday life, regarding data analysis, management, decision making and landscape perception.[28] GIS alone is not a decision-making system, but provides decision support information because it is a computerized system that combines different techniques and methods to store, analyze, and confront georeferenced information and organize it in databases.[29] One such method is PPGIS, which means the Public Participatory Geographical Information System, and it is being used as a methodology to allow individuals and groups to participate more actively in "GIS-based spatial analysis, knowledge production, or planning and decision making."[30]

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[25] Laurie, "A society organized for war".
[26] Barroca, "Castelos medievais portugueses", 14.
[27] Freitas, "Paisagens e vivências na fronteira", 250.
[28] Álvarez Larrain, Alina, and Michael K. McCall, "Participatory mapping"; Melo, Danilo, Patrícia Lustosa Brito Silva, and Leonardo Araújo Menezes, "Sistema de Informação Geográfica"; Brown, Brabyn, "An analysis of the relationship"; Llobera "Building past landscape"; Sanchéz-Pardo et al., "Exploring the landscape dimension".
[29] Melo, Danilo, Patrícia Lustosa Brito Silva, and Leonardo Araújo Menezes, "Sistema de Informação Geográfica, Bessa et al. "Contribuição dos sistemas de informação geográfica".
[30] Elwood, "Critical Issues in Participatory GIS"

Several studies have been conducted using GIS in historical landscape analysis[31] and the relationship between multiple values and physical landscapes using PPGIS and landscape character classification. Llobera[32] conducted a pilot study that focused on the use of GIS in the context of landscape research in archaeology. Álvarez Larrain & McCall[33] used GIS to develop community-based spatial studies in archaeology, incorporating local spatial knowledge. Sanchéz-Pardo[34] used GIS to examine and understand the rationale behind the location of several churches in the region of A Mariña, in the northwest of the Iberian Peninsula, between the ninth and tenth centuries.

Accordingly, to what this article is concerned with, the GIS permits landscape analysis and visualization as an essential tool that helps the understanding and identification of the main characteristics of late medieval landscape, considering the complexity imposed by a boundary created in the political process and organization of the Reconquest phenomena after the Muslim entrance in the Iberian Peninsula.[35] Soon, it will be fundamental to suggest protection and management of the medieval characteristics and elements described and identified in Demarcações de Fronteira, which is still resilient in the current space.

The analyzed border is a case study limited by Freixo de Espada à Cinta and the Outeiro de Miranda; Village which is located at the entrance of the Maçãs River. The richness of this document - *Demarcações de Fronteira* - in landscape exploitation, places in evidence the diverse and precise information about the landscape's main characteristics and integrant elements. In the future, other territories could be analyzed using GIS to better understand and expose the significant aspects of the landscape to observe a cluster of similar characteristics regarding delimitation and settlement on the border established between Portugal and Castile in the late years of the Medieval Ages. In the *Demarcações de Fronteira* landscape narratives, it is possible to categorize information in landscape analysis and visualization to generate a digitally represented

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[31] Brown, Brabyn, "An analysis of the relationship"; Llobera, "Building past landscape"; Álvarez Larrain, Alina, and Michael K. McCall, "Participatory mapping"; and Sanchéz-Pardo et al, "Exploring the landscape dimension". Brown, Brabyn, "An analysis of the relationship".
[32] Llobera, "Building past landscape".
[33] Álvarez Larrain, McCall, "Participatory mapping".
[34] Sanchéz-Pardo et al, "Exploring the landscape dimension".
[35] García de Cortazar, "Sociedad y Organización del espacio en La España Medieval".

visual and communicable landscape analysis that will allow landscape protection, safeguarding, and management.[36]

The geographical analysis was performed in several steps. First, it was produced a layer containing several sites identified by Afonso de Resende, such as castles and small villages in the area. Then, using the layers of the municipalities of Portugal and Spain, a map was produced with the delimitation of the study area. The third step was to insert some environmental variables, such as the area's altitude, slope and waterlines. With the integration of this geographical information, several maps were produced, and it was possible to reach some general considerations.

Even though the main objective of *Demarcações da Fronteira's* natural and cultural landscape description has a military scope, the document provides information about historical heritage, political, economic, social, and cultural data, as well as emotions and feelings that are particular to literature or paintings, as a landscape perception.[37] In fact, in these informative documents, the lecture is very objective but rich in descriptions. From this document, it is possible to identify some medieval scenery and cultural perceptions. Therefore, the text was analyzed to understand how medieval inhabitants perceived their contemporary landscape(s) and how memory and oral knowledge could be essential to capture some landscape characteristics and attributes.

Generally, it is possible to say that this border is, as in other places, a memory space and a place of memories.[38] All respondents to the inquiry reported ancient events, handed from generation to generation, through narratives that ensured the boundary and showed the existence of delimitations. Some references reinforce the maintenance of the borderline in the same place; others reveal changes in milestones and territorial possession variations. In the first case, the sites reveal peace and friendship; in the second case, they are exposed to conflict. Such conflictive sociability issues frequently arise in narratives and are linked to physical spaces where the boundary is not clearly delimited and where the breach of economic activities' regulations encourages conflict. On the contrary, when the borderline followed the same places and was very well delimited by the same elements throughout the centuries, the villages and communities lived without contact or with occasional contact.

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[36] Pettit et all, "Landscape Analysis and visualization"
[37] Lawrence, "Experiencing the Desert".
[38] Ribeiro and Melo, "A materialização dos poderes no espaço".

A generational narrative identifies local border delimitations and passes this knowledge through generations and local stories that have happened steadily. Frequently the respondents used expressions such as "as far as I remember", "always was like that", "always seen like that", and "always seen since fathers or grandfathers' times",[39] among other expressions that call for memories and strengthen the significance of this oral knowledge in decisions. This became customary law, and the truth was guaranteed by using the right hands over the Holy Gospels and the appeal to paradise after death if the truth was said or, in the other way, with a lie, a place near the devil would expect.[40]

Recovering those events through time (re)constructs an image of the medieval territorial landscape, but also records local memories, imagination, emotions, and feelings, and introduces a place identity and a group connection. As Minarova-Banjac[41] argues, memories of the past help the creation of a group identity and is a shared perception of the past where cultural continuity links the past, the present and the future. This generational memory is exposed as the absolute truth about the territorial domain and is used by Martínez Jiménez and Tejerizo Garcia,[42] considered a place identity-based on the preservation of habits and practices that result in a mnemonic, social, historical, and emotional shared place connection.

This border is also a place of emotion and a social space where local communities create their worlds, explore resources, and write the history of relations and culture. No one is oblivious to borders, and the presence of a frontier limit develops habits and customs that are part of society's daily life. We agree with Martín Viso, et al.,[43] concluding that the places have a continuity in time even before the Middle Ages. Local inhabitants used local forestry or agricultural resources to manage the sites and landscapes as a collective action.

In addition, the border is also a place of power. Demonstrating local domains is imposed as manifestations of political, social and economic strength, and neighbouring municipalities exercise domain pressures.[44] By

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[39] *Demarcações de fronteira*, vol. III, 46.

[40] *Ibid*, 55.

[41] Minarova-Banjac, "Collective memory and forgetting", 3.

[42] Martínez Jiménez and Tejerizo Garcia, "Assessing place-based identities in the early Middle Ages", 24.

[43] Martín Viso, Iñaki, et al., "Paisajes dinámicos y agencia local en el sur de la Meseta del Duero medieval: el caso de Monleras", 334-335.

[44] Freitas, "Fronteiras na Idade Média".

analyzing the sources and 16th-century descriptions that displayed similarity, it is possible to identify several boundaries marked by sociability situations, ranging from permanent conflict to latent conflict or peace. Harmony, good neighbourliness, encounters, and struggles are intermittent in certain places.

The boundary established between Freixo de Espada à Cinta and Outeiro de Miranda, where the Maçãs River provides other characteristics to the border landscape, is demarcated by the Douro Valley, which corresponds to the actual natural areas of Douro International Nature Park. The 16th-century Douro Valley description entirely corresponds to a landscape characterized by rocky places and an inhospitable space offering fragile mobility. This border is a natural deep valley landscape where geographical attributes strongly demark both sides of the Kingdom. Where it was impossible to restrict with natural features, milestones were implanted to confirm the exact place of the border passage.
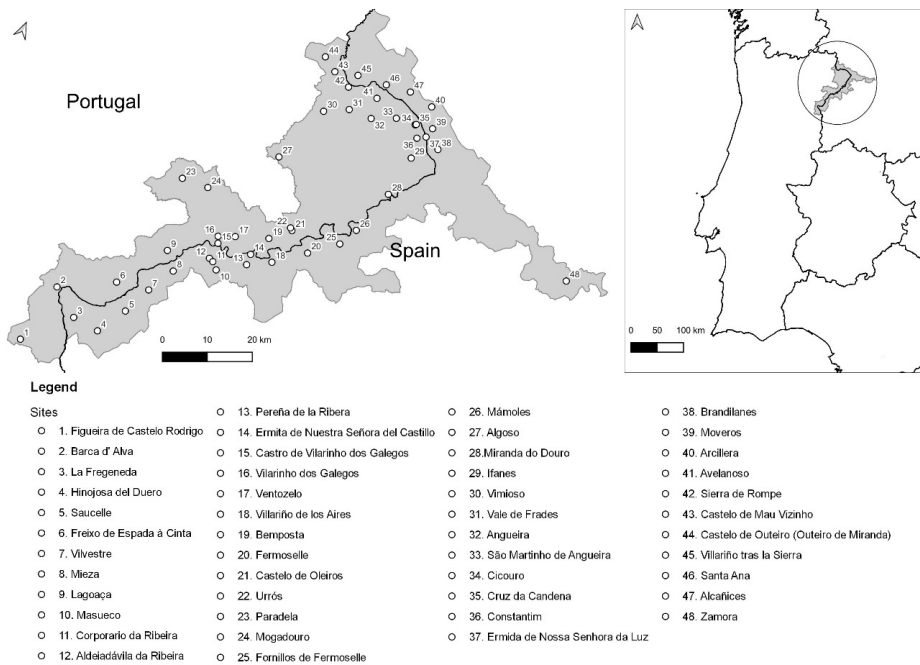
Through the narratives of the *Demarcações de Fronteira*, rivers, streams, mountains, topographic accidents, pastures, distinguished rocks, and constructions, among others, are essential elements to control people's living areas and proved to be one of the main structural elements of the social, political, and economic definitions of two crucial medieval powers: Portugal and Castile territory. The border existed as political delimitation and demarcation. Natural attributes or milestones signalized the local communities' acting areas and delimitated economic, political, and social interaction in medieval times.[45]

Boundaries are established more easily when perennial waters, streams or rivers maintain the riverbed. Some watercourses are easily crossed, and the connections between the two borders are facilitated by crossings, boats, or by foot. Other rivers pass through steep valleys and are inaccessible crosses. Either way, rivers are always secure and explicit delimiters of territorial spaces. By contrast, the presence of milestones on land does not ensure that the border persists as it is. Landmarks are easily diverted, as are the physical and natural elements of the landscape.

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[45] *Ibid*.

2. THE DOURO LATE MEDIEVAL LANDSCAPE: FROM FREIXO DE ESPADA À CINTA TO OUTEIRO DE MIRANDA

Mapa 1. Boundary villages identified by Afonso de Resende in *Demarcações de Fronteira*[46]

Legend

Sites

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○ 1. Figueira de Castelo Rodrigo	○ 13. Pereña de la Ribera	○ 26. Mámoles	○ 38. Brandilanes
○ 2. Barca d' Alva	○ 14. Ermita de Nuestra Señora del Castillo	○ 27. Algoso	○ 39. Moveros
○ 3. La Fregeneda	○ 15. Castro de Vilarinho dos Galegos	○ 28.Miranda do Douro	○ 40. Arcillera
○ 4. Hinojosa del Duero	○ 16. Vilarinho dos Galegos	○ 29. Ifanes	○ 41. Avelanoso
○ 5. Saucelle	○ 17. Ventozelo	○ 30. Vimioso	○ 42. Sierra de Rompe
○ 6. Freixo de Espada à Cinta	○ 18. Villariño de los Aires	○ 31. Vale de Frades	○ 43. Castelo de Mau Vizinho
○ 7. Vilvestre	○ 19. Bemposta	○ 32. Angueira	○ 44. Castelo de Outeiro (Outeiro de Miranda)
○ 8. Mieza	○ 20. Fermoselle	○ 33. São Martinho de Angueira	○ 45. Villariño tras la Sierra
○ 9. Lagoaça	○ 21. Castelo de Oleiros	○ 34. Cicouro	○ 46. Santa Ana
○ 10. Masueco	○ 22. Urrós	○ 35. Cruz de la Candena	○ 47. Alcañices
○ 11. Corporario da Ribeira	○ 23. Paradela	○ 36. Constantim	○ 48. Zamora
○ 12. Aldeiadávila da Ribeira	○ 24. Mogadouro	○ 37. Ermida de Nossa Senhora da Luz	
	○ 25. Fornillos de Fermoselle		

In this selected part of the border (Freixo de Espada à Cinta and Outeiro de Miranda), the territory is characterized by low-density places where the villages of Freixo de Espada à Cinta, Mogadouro, Bemposta, Algoso, Miranda do Douro, Vimioso and Outeiro de Miranda demarcated the border from the Portuguese side. It is possible to identify a similar number of villages recognized by the inquirer on both sides of the boundary (Map 1). The area is, thus, characterized by the presence of 48 sites, with 13 castles cited by Afonso de Resende (Freixo de Espada à Cinta, Hinojosa del Duero, Vilvestre, Mogadouro, Bemposta, Castelo de Oleiros, Algoso, Miranda do Douro, Vimioso, Castelo de Outeiro de Miranda, Castelo de Mau Vizinho, Alcañices and Zamora), and 35

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[46]   Author's elaboration Portugal and Spain shapefile, available at https://www.eea.europa.eu/data-and-maps/data/eea-reference-grids-2/gis-files, and data produced by the authors. The numbers of the sites are the same in all the maps presented.

villages. As a note, the numeration shown on this map will be used throughout the article in all cartographies. Identifying an organized area with settlements and traditional military border defence is possible; the same occupation Martin Viso detected in the south of Douro Valley for the earlier Middle Ages. He characterized them as resilient territories.[47] The resilience of those territories is an essential characteristic of the 16th-century landscape described by *Demarcações de Fronteira*, as it is exposed on Map 1.

Map 2. Altitude map of the studied region[48].
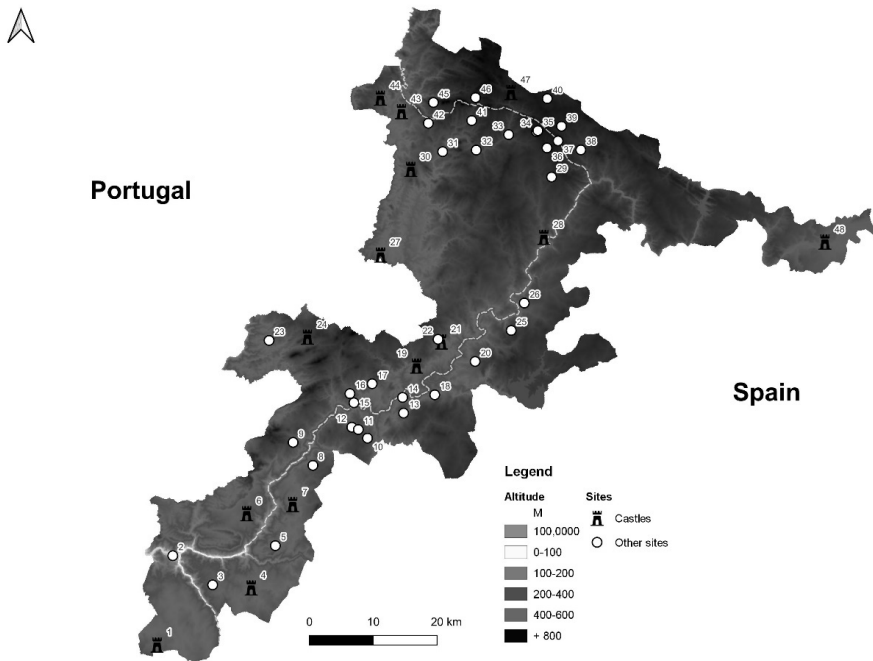
Here, the borderline materializes in the most inhospitable mountain places, where it is impossible to go on foot or horse, and where no one knows the precise location of the boundary delimitation. Here, the

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landscape acquires the characteristics of no bodies land. The line is there, but it is challenging to precisely know where.

The Douro River is a natural frontier that characterizes the landscape. It is an area characterized by a considerable difference in altitude, since 10 m, near Barca D'Alva (2), at the confluence of the Águeda River and Douro River, and the highest in the northern region of the study area, 950 m, near Villariño tras la Sierra (45). It is also possible to conclude that most castles, as expected, were located in the highest areas (Map 2).

In more populated areas, where prominent landmarks distinguish the terms of the neighbouring counties, borders acquire characteristics of a social division that is primarily peaceful and familiar but sometimes overwhelming, given the bad relations between neighbours. Crossing the border could mean visiting friends and family or conflict and death. Here, the low density and the deep valley landscape allow living in peace, but in a latent state of war.

The description of the border demarcation signalized, in the first place, the information of interest for military territorial characterization. In this context, identifying places of historical tension, describing them and providing information about possible future threats is essential. Therefore, information such as the presence of fortresses or castles, number of inhabitants, river crosses, local conflicts, community disagreements, border economic exploitation or landscape physical attributes, the rivers and crosses over the rivers, streams, roads, the exact location of the boundary milestones, and identification of the boundary line are fundamental for military appreciation. It is essential to signal that the inquirer identifies the castles on the Castilian side more precisely to solidify and organize the defence, as priority information is the military presence of castles and villages surrounded by walls that could offer relevant and observant protection (Map 3).

Map 3. Presence of castles near the border identified by Afonso de Resende in
Demarcações de Fronteira[49].
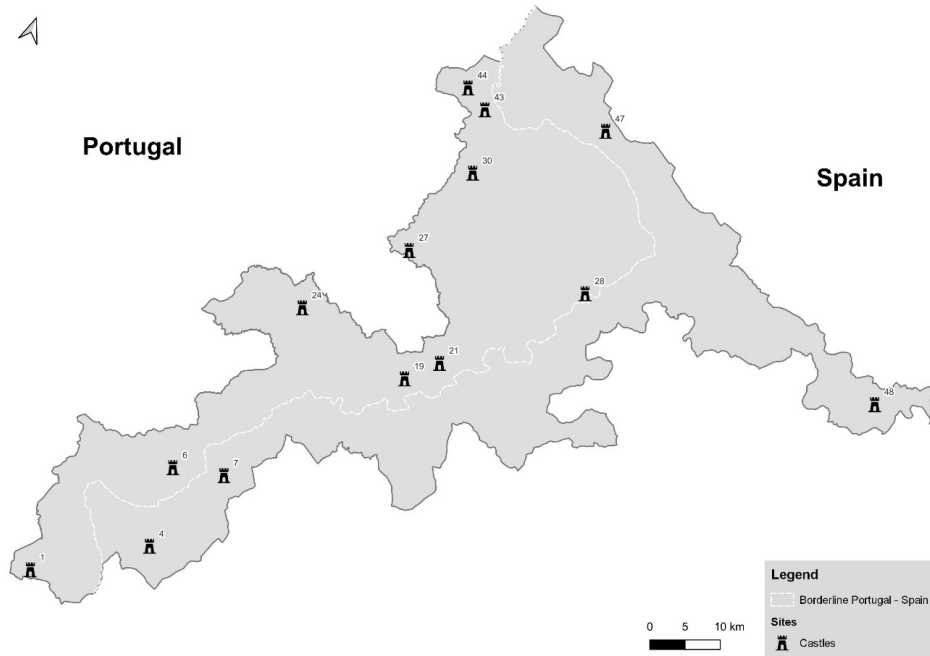
For defence, it is important to record the distances between villages,
as well as the identification of passageways and the number of villages or
neighbours. This information is crucial for war defence. In this way, the
villages, in particular Castilian villages, were described with some
neighbours and miles to the boundary as a way to understand the
dimension of an eventual attack and at what distance the danger is. The
Afonso de Resende information pointed to Silvestre (7), Fermoselle (20)
and Zamora (48) as the more populated with strengthened military
conditions. Unfortunately, a comparison with Portuguese villages is
impossible (Map 4).

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[49] Author's elaboration.

Map 4. Population in border villages[50]
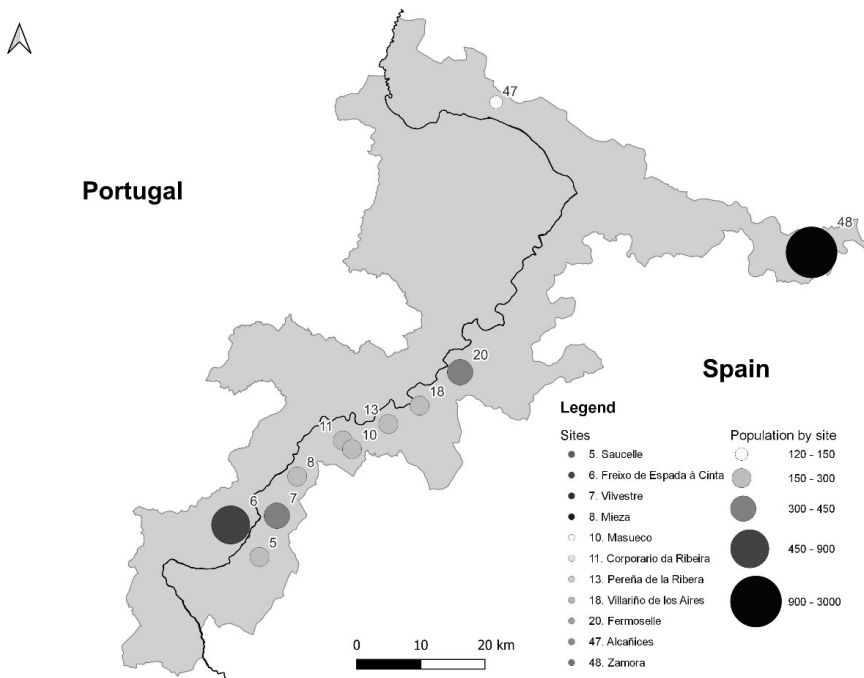
In the territory that is the object of this study, the first place Afonso de Resende visited was the village of Freixo de Espada à Cinta (6) on June 12, 1538. He started the inquiry with local authorities with some requirements to understand the local demarcation line and its characterization. The inquirer requires information on the exact itinerary and location of the Portuguese villages confined to Castile's border path. He wanted to know the details of the villages and other places where the Portuguese villages were bound. Meanwhile, it collected locals' insights about boundary security and the efficiency of demarcation. Above all, the inquirer detected doubts and local disputes about the exact place of milestones, among other important questions, to clarify the local social relations and the physical appreciation of places.[51]

The answers the inquirer obtained in Freixo de Espada à Cinta from residents characterize this village as a pacific place, primarily because of the deep Douro Valley in this area. Both riverbanks of Douro are rough

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[50] Author's elaboration.
[51] *Demarcações de fronteira,* Vol. III, 27

and challenging to cross, as described in *Demarcações da Fronteira*, and the Douro is locked on stiff margins. As Barros and Barros[52] reinforced, the Douro River was difficult to walk, and the journeys were arduous through narrow paths, deep ravines, and sharp reliefs. With this configuration, the Douro Valley was complicated to access and cross, which diminished the contacts between villages on both banks (Map 5). With reduced mobility, social relationships are naturally pacified. This fact coincides with the reduced number of villages on both sides of the boundary. It is likely that the steep slope of the riverbanks is also responsible.

Map 5. Slope map of the region[53]
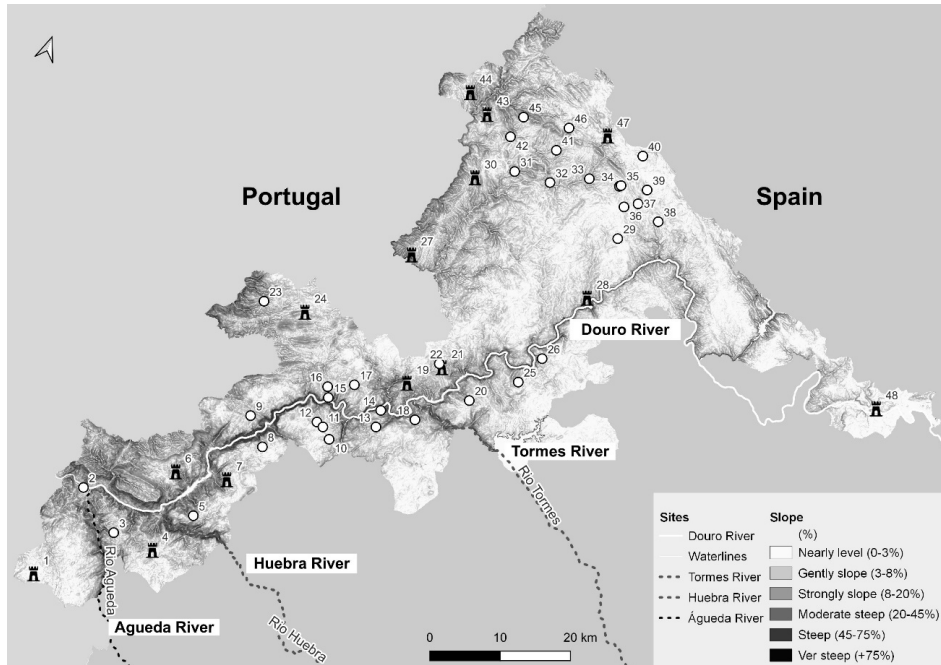
The local inhabitants perceived and signalized that the Douro Valley imposed a solid frontier line due to the impossibility of the river changing its course, which restricted a strict territorial limit.[54]

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[52] Barros and Barros, "Caminhos e devoções".
[53] Author's elaboration.
[54] *Demarcações de fronteira,* Vol. III, 29.

To solidify the border limitations, the Águeda River, the Huebra River, and the Tormes River, as Douro tributaries (Map 5), were critical geographical attributes and delineators of the local landscape and border places. The month of the Águeda River and the month of the Huebra River were signalized as significant perennial boundary marks for solid and durable territorial demarcation. As confirmed on the map, these riverbanks are deep and well demarcated in the landscape.

Daily life in riverbanks was established between Freixo de Espada à Cinta (6) and Castelo Rodrigo (1), on the Portuguese side, with Fregeneda (3), Hinojosa del Duero (4) and Saucelle (5) in Castile (Mapa 1). In this area, Afonso de Resende signalized the military conditions of the places in Castilian villages, one of the main concerns of this royal representation. The inquirer describes Fregeneda (3) and Mieza (8) as border villages that do not have a castle but signalized the castle of Silvestre (7).

The next step in this journey across the Portuguese border was Mogadouro (24), where the royal inquirer arrived on June 13, 1528 (Map 1). In this area, the delimitation line follows the middle of the Douro River, and the villages on both riverbanks accepted it without controversy. The main reason for this is that the river here is difficult to cross outside the official ports (Map 5).

The connection was made by boat in secure locations in the river. It is important to recall that Mogadouro (24), as well as Miranda do Douro (28) and Freixo de Espada à Cinta (6), were critical commercial villages and dried ports[55] that compelled the existence of passages between Portugal and Castile. The Douro was crossed in unique places where the boats could dock (Map 6).

The 16th-century document locates a boat in Barca de Alva (2)[56] and another boat crossing the river near the mouth of Huebra. Those boats linked Freixo de Espada à Cinta (6) to Hinojosa (4).[57] Another boat crossed the Douro River in Saucelle (5), another one in Silvestre (7), and another crossed the river between Lagoaça (9) and Mieza (8). These last three boats belonged to the Castilian villages: Saucelle, Silvestre and Mieza. The *Demarcações da Fronteira* signalized five ports in the Douro River, the same number as the Freixo de Espada à Cinta officials enumerated to

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[55] Freitas, "Fronteiras na Idade Média".
[56] *Demarcações de fronteira,* Vol. III, 27.
[57] *Ibid,* 28.

Afonso V in 1462, as existing in their territory.[58] As D'Abreu[59] points out, these boats are small vessels, as confirmed by Leo Von Rosmital's travel descriptions through Castile and Portugal.

There is no doubt that Castile had the domain of the cross boats and ports in this territorial area (Map 6). The river cross-network revealed a significant interaction and the presence of roads linking the main villages. As Barros and Barros[60] argued, the main roads and boats were associated with a network of medieval connections.

In Mogadouro, Mendo Afonso de Resende reveals his clear objective by king's order: to describe the border places in its main important scenery of the delimitation between Portugal and Castile. In the Mogadouro region, the cognitive identified the village of Lagoaça (9) and, on the other side of the limit, on the Castilian side, the villages of Mieza (8), Aldeadávila (12), Corporation (11) and Masueco (10). The Douro River margins continued to be characterized by rocky lands and high mountains, and the border follows the river by its middle line.[61] These landscape characteristics generally avoid conflict and maintain communities at a distance (Map 5).

Following the riverbanks, it is possible to signalize Bemposta (19) and Ventozelo (17), small villages integrated, nowadays, with Vilarinho dos Galegos (16) (Map 1). The Douro River was shared with Pereña de la Ribera (13). The river margins were constantly described as rocky and with high elevations, where the river established an inalterable border. Despite this mountain and cliff landscape, it is possible to discover some river crosses because of the commercial importance of this area. Pereña (13) village had a boat that crossed the river, and Vilariño de los Aires (18) had another boat divided with Bemposta (19) (Map 6). Pereña has no castle or fortress, and in this land, daily life is pacific.[62] These places have been populated for a long time, as it is possible to identify the Castro de Vilarinho dos Galegos (15) on the Portuguese side. As Dinis and Gonçalves[63] argue, the "Castelo dos Mouros" of Vilarinho dos Galegos is a tower probably constructed in the suevo-visigotic period related to some territorial delimitation or in the Islamic peninsular invasion or of the Reconquest period. Reinforce the establishment of medieval religious and

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[58] Machado, "Freixo de Espada à Cinta".
[59] D'Abreu, "Das antigas barcas de passagem".
[60] Barros and Barros, "Caminhos e devoções".
[61] *Demarcações de fronteira,* Vol. III, 33.
[62] *Ibid*, 36.
[63] Dinis, Gonçalves, "O Sistema defensivo do Castelo dos Mouros".

military monuments in Roman or Islamic places of interest.[64] Tejerizo García defines the settlement in the Douro in the early Medieval Age as a continuity where the local communities and the land use are significant in the landscape evolution.[65]

Map 6. Boat crosses in River Douro from Freixo de Espada à Cinta to Miranda do Douro[66]
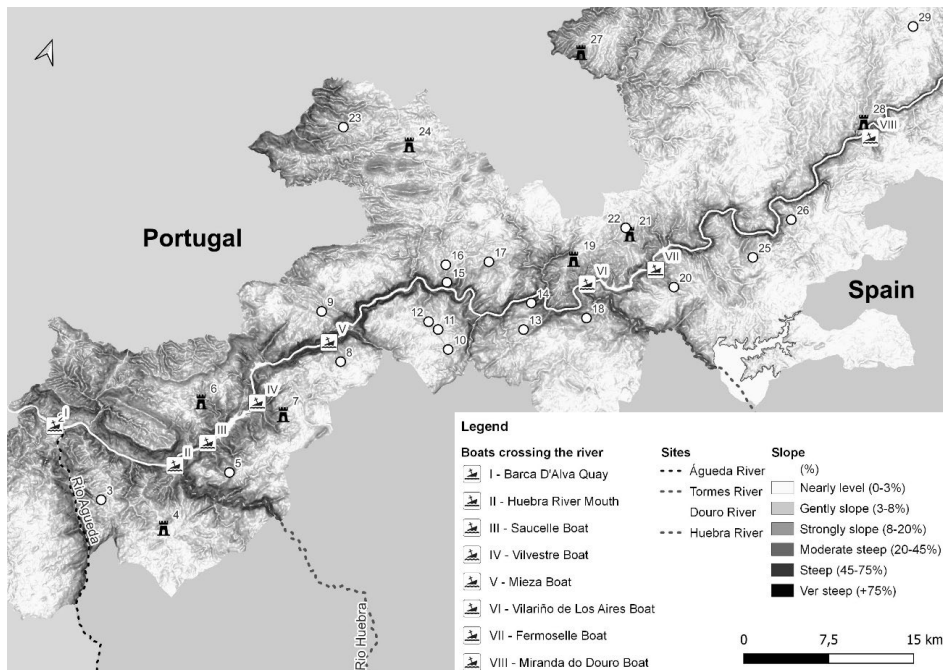
Following the route along the border of the Douro River, Fermoselle (20), on the Castilian border, is the next village with a castle and walls. The village belongs to the Archbishop of Zamora, and in this same place, a boat owned by the Castilian village crosses the river. On the Portuguese side, Castelo de Oleiros (21) is a vigilant point over Douro (Map 7). Curiously, in front of this castle of "Oleiros", it is possible to find another castle with the same designation of "Oleiros" on the Castilian side. The Portuguese Castle of Oleiros has been classified as Public Interest since

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[64] Serén, "Pedras, montes e proteções".
[65] Tejerizo García, "Arqueología de las sociedades campesinas en la cuenca del Duero"
[66] Author's elaboration.

1990.[67] This document makes it possible to distinguish these monuments' prominence in the landscape's description and characterisation and the value of the past in the delimitation of space and the local elements of socialisation. The Oleiros castles (Portuguese and Castilian) are essential milestones in this region. As Gonçalves[68] argues, the castles of this border are structuring elements of the landscape, marking and defining the border. However, many pre-exist the border delimitation itself and distinguish another territorial organisation.

Mendo Afonso de Resende describes these castles as belonging to the Islamic ("micro"), probably meaning that the castle is ancient. The description of the 16th century revealed that both castles were destroyed and used for cereal gardening.[69] The inquirer witnessed that as they were destroyed, the residents called them "cabeços", a topographic name used as a high place on top of the hill where they were implemented. This designation confirmed the castle's ruin in the 16th century.

According to Lopo,[70] a tombstone dating from the Roman period was probably discovered in this place. This archaeological finding pointed to the castle chronology before the Islamic entrance into the Iberian Peninsula. For the description, it is possible to recognize a castle that, in memory, is from the Islamic period, but Muslims could use a more ancient fortress. The villages live in peace in these boundary places, and the Douro River demarcates the boundary very well. Barroca[71] pointed out that the Islamic occupation in the north of Douro River occurred between 715-16 and the 9th century, when Afonso III, the king of Asturias, changed the limit of the Christian kingdom in the Douro Valley, where it is possible to find various Islamic constructions. Barroca[72] reinforced that this was a peripheral area for Islamic territory. This fact explains the lack of information but calls attention to the diversity of toponymy related to "more" in this area, which could be more than a simple reference to ancient places or monuments.

These military landmarks described by Mendo Afonso de Resende, dating from the Islamic occupation or earlier implantation, show that the Douro is an army and border territory that crosses different periods before

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[67] Decreto n.º 29/90, DR, I Série, n.º 163, de 17-07-1990.
[68] Gonçalves, "Entre a Peneda e o Barroso".
[69] *Demarcações de fronteira,* Vol. III, 36.
[70] Lopo, "Uma lápide do castello de Oleiros".
[71] Barroca, "De Miranda do Douro ao sabugal".
[72] *Ibid*.

the Middle Ages, and even before the demarcation line established between Portugal and Castile. The castles and fortifications built on these cliffs probably had a more significant task of controlling river surveillance than protecting or attacking this area. Reinforcing the Douro River played an essential role in the crossing between the two banks that deserves attention.

Following the riverside, the border delimitation enters Algoso (27) and Urrós (22). The landscape continues to be characterized by cliffs, deep valleys, and high mountains with low population density. The consequence was very considerable difficulty in the mobility of populations and contact between the two sides of the border. A curious reference to a small boat launched near Castelo de Oleiros (21) (Map 6) by the Castilians to the Portuguese side with cereals and other goods in a place where there was no other way to do it.[73] It is impossible to find further descriptions of this border beyond these commercial connections. Still, Barros and Barros[74] refer to a basket connecting the river's two banks in inhospitable places. The deep valley is an obstacle in riverbanks relations, but the local connection between communities always finds a solution to break the isolation.

Following the boundary of the river, on the Portuguese side, we retain the presence of Miranda do Douro (28) and on the Castilian side, it is possible to find Fornillos de Fermoselle (25), Mamoles (26) and Zamora (48). The river is described as being very winding and having many curves. The Castro Stream should be noted as a delimiting landmark in the landscape, and this stream is a boundary milestone whose watermills demonstrate the exploitation of its flow. The toponymy "Castro" is probable evidence of a fortified protohistoric place in this locality.

In Miranda do Douro, a boat that belongs to the Portuguese side crosses the river. In this region, Mendo Afonso de Resende registered 16 watermills on the Portuguese side of the Douro River. These watermills were significant in Miranda territory and the local market.[75] The presence of these watermills indicates changes in the landscape, boundary characteristics, and social and economic relations. The riverbanks in the region were still described as deep valleys with difficult accessibility (Map 6).

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[73] *Demarcações de fronteira,* Vol. III, 41.
[74] Barros and Barros, "Caminhos e devoções".
[75] Rau, "Feiras medievais portuguesas" Freitas "Fronteiras na Idade Média".

A bit further north of Miranda do Douro, Alcañices (47) and Zamora (48) share the border with Portugal. Mendo Afonso de Resende recorded that in Zamora, the Douro River was crossed by a bridge from the Roman period, as mentioned in the Demarcations with two towers. This bridge, referred to in the *Demarcações de Fronteira*, has undergone some architectural transformations since medieval times. In the 19th century, the two towers were demolished to adapt the bridge to the traffic circulation.[76]

Vimioso (30) was the Portuguese village that divided the boundary with Alcañices (47). Noticeable by the cliff and stiff territory demarked by the Douro River, where border contacts were made in specific places where the river allowed the existence of river crosses, the landscape in this region was characterized by territorial delimitation when the border limit stopped following the riverbed. Another variation in the border landscape announces changes in local relations.

In the territory of Vimioso (30), the places Vale de Frades (31), Paradela (23), Ifanes (29), Constantine (36) and Avelanoso (41) are the Portuguese villages located at the boundary. In this region, in the construction of the defensive system, it was essential to secure and organize the military structure, especially in open territorial places with high mobility levels as the one the inquirer is entering. Similarly, the distances between Portuguese and Castilian villages are significant, the time it took to travel between them, and the ability to obtain information in due time. Without the natural barrier (the Douro River), this information could be crucial to prepare the defence in the case of an attack. In that way, Mendo Afonso de Resende describes that Paradela (23), Constantine (36), and Cicouro (34) are distant from the limits of two crossbow shots each. Ifanes (29) and Avelanoso (41), one-third of a mile, and São Martinho de Angueira (33), half a mile. Here, the boundary is limited by the rock milestones. Afonso de Resende designated those places carefully, announcing a place with conflicts and liable to produce some limited disputes. He highlights that the Castilians frequently moved the milestones, and often Portuguese side was forced to restore limits. He highlighted that the Castilians frequently moved the milestones, and often the Portuguese side was forced to restore limits. Every year, local authorities visit the landmarks in this area to certify the exact location of the limit.[77] When the boundary milestones are fragile, for instance, made

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[76] Rodríguez Méndez, et al., "La reforma del ingeniero Luis de Justo".
[77] *Demarcações de fronteira,* Vol. III, 46.

of overlapping stones, it is easy to break down the construction. Afonso de Resende describes that the change of the location of landmarks was an annual problem caused by the local agricultures when they plough the lands at these places. In particular, the milestones located in Paradela (23) and in the Castro (15) stream intersection, where there were constant victims of this economic struggle.

In this place with the fragile boundary in question, the inquirer indorses a visit to the boundary milestones with special attention. In particular, one milestone is frequently destroyed near the Castro stream gate, in cereal lands disputed by the agricultures on the two sides of the boundary. The description of this visit[78] is very detailed. Mendo Afonso de Resende organized the visit with some residents of Paradela (23) village who knew precisely the landmark places and justified his absence as the area was very rocky with complicated mobility, even by horse. They began their itinerary at the Castro stream gate. The witness confirmed that every landmark was in their places,[79] except for the one identified in cereal lands subject to conflict. The committee located more than 25 milestones. The landmarks were identified as having diverse configurations. Some were represented by several rocks constructed with stones placed on each other, and others were identified by the mineral colours that differed from the natural landscape around them. For instance, a white stone was perfectly identified by its colour. Other milestones were described as solid rocks, where they could mark the Portuguese symbol (Aquinas). The main purpose was to determine the visibility of the boundaries limits at long distances.

The precise location of the landmark implementation was very well defined. Every milestone was in a terrain elevation, near a stream, or visible valley, always identified with topographic landmarks, or near a road or significant monument.

It is possible to identify the hermitage of Nossa Senhora da Luz (37)[80] that shelters on the back of the building, and another landmark, the Cruz de Candena (35),[81] both in Portuguese territory (Map 7).

In this region, it is also possible to find the "Mau-vizinho" castle (43), a controversial point on the border. The name of this castle (Bad

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[78] *Ibid*, 47-51.
[79] *Ibid*, 48.
[80] Pereira, "Lenda das Sete Senhoras".
[81] Salgado, "Revisão do PDM".

Neighbour) is a sign of local conflicts between the two sides of the border. It is interesting that a local legend is about this castle and localized in Vale de Pena. It belongs to Bragança, a Portuguese village in continuous conflict with Castilians, a situation that gave the name to the castle.

Map 7. Localization of Ermida de Nossa Senhora da Luz and Cruz de Candena[82]
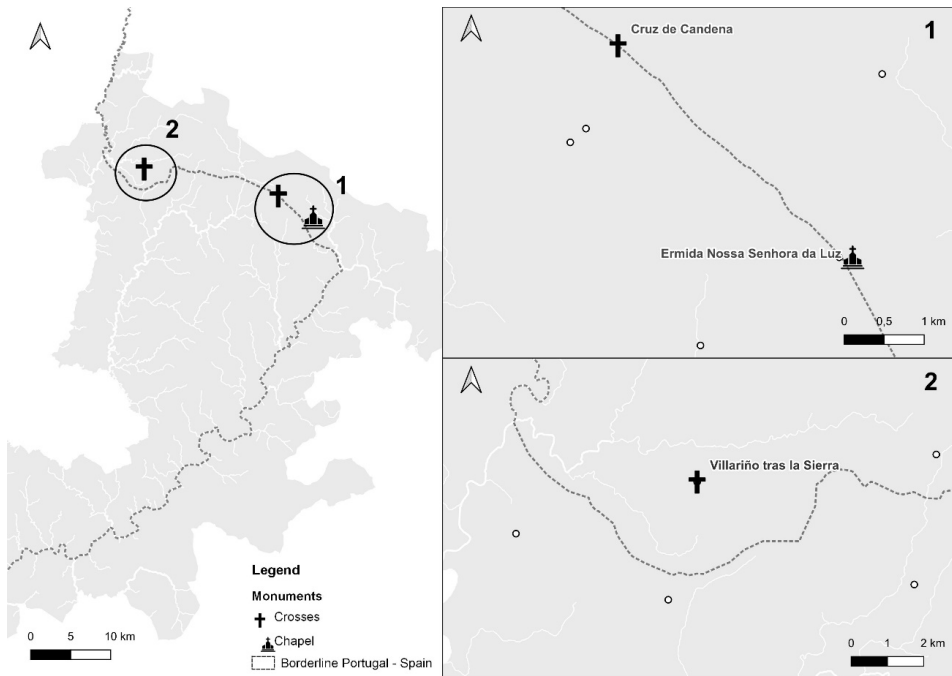
Several paths and some roads were identified in this area. The narrative intentionally distinguishes between roads and paths. The road is a main way of communication and a path for a minor road linking secondary villages. The first ones that are identified are the path between Ifanes (29) and Brandilanes (38), the path from Constantim (36) to Moveros (39), and finally, the path between Constantim (36) and Arcillera (40). Other paths allow the contact from Angueira (32) to Alcañices (47), from Vimioso (30) and Vale de Frades (31) to Santa Ana (46). There is also a road from Vimioso (30) and Vale de Frades (31) to Alcañices (47),[83]

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[82] Author's elaboration.
[83] *Demarcações de fronteira,* Vol. III, 54.

and a path between Vale de Frades (31) and Villariño tras la Sierra (45) (Map 8). When the road crosses the border, a landmark signalized the fact as the milestone located on the road from Miranda (28) and Constantin (36) to Alcañices (47). There is also a reference to a milestone near the "Carril" that is identified with "Carril Mourisco", probably a Roman road and probably used as Santiago Way.[84] The path trace is identified,[85] and Cardoso[86] refers to a possible method of communication that follows the Portuguese border without entering the Castilian side.

Słowiński[87] reinforces the importance of roads in natural-to-cultural landscape transformation. This transformation is pronounced and counts with natural scenery changes in these places.

Map 8. Paths or roads signalized by the *Demarcações da Fronteira* (Moreno, 2003)[88]

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[84] Lima et al, "O carril mourisco".
[85] Ibid; Salgado, "Revisão do PMD do concelho Miranda do Douro".
[86] Cardoso "Diccionário geográfico".
[87] Słowiński et al, "The role of Medieval road".
[88] Author's elaboration.

In this territorial area, the boundary does not follow the Douro river with rocky banks, and geography permits greater mobility and contact between villages on both sides of the border. For one side, this natural phenomenon increases the possibility of a conflict, but for another it develops the economic activities, opening to an easier social and cultural contact.

In Outeiro de Miranda (44), the delimitation needs to be better known, and the conflicts increase. The place descriptions are very detailed, and the narrative discusses the constant changes in local landmarks.[89] The water of the falling rain marks the limit in the place where the milestone is near the path between Vale de Frades (31) and Villariño tras la Sierra (45).[90] As referred to by the narrator, this place is contested because of the water available for bovine animals. In this local, a resident in Vale de Frades describes, from the Portuguese perspective, the destruction done over his land identified as "Lameira de Morigo". He describes how the border milestone changed, and his cereal land was constantly invaded and destroyed yearly.[91] The impossibility of annual cultivation has conducted to the abandonment, taken by oaks and heaths. This is the everyday discourse of landowners with land on the border. In Vale de Frades, two other landowners complained about the same invasion of their lands at the boundary.[92] Another description of the contested area near the hermitage of Villariño tras la Sierra, Zamora, of the cereal land reinforces the ongoing devastation in the borderline. The witness pronounces an exciting description that imposed a reflection on the successive and local conflicts that changed and had an enormous impact on the borderline settlement. In this case, evaluating the local description, a local chapel that belonged to Comenda de São João Algoso (Map 8) was used to keep the cereal cultivated by the Portuguese residents. The Lord of Alcañices, by his initiative, appropriated the hermitage and the grain with the justification that this land belonged to Villariño and that this village was included in his territory.[93]

Villariño was disputed from the two sides of the border, and Portuguese residents argued and complained about the belonging. In the words of one of the inquired, an arguing sentence calls for attention. He

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[89] *Demarcações de fronteira,* Vol. III, 54.
[90] *Ibid*, 56.
[91] *Ibid*.
[92] *Ibid*, 57.
[93] *Ibid*, 53-57.

refs that the place where Villariño is "seen by the eye" seems to be on the Portuguese side of the border, and they reinforce, arguing about those lands that the residents prefer to be in Portugal more than in Castile.[94] His "seen by the eye" Villariño is on the Portuguese side, discovering the way the borderline (by the eye) was drawn between milestones. Reinforcing, when observing the map (Map 7 (2)), occurs that those residents had a place perception and a cartographic view.

From this location, the border follows the Maçãs River, which deserves detailed analysis soon.

3. CONCLUSIONS

It is possible to identify two different landscapes in this border area by analyzing the medieval narratives resulting from the inquirer. One of these landscapes was constructed by the Douro River presence, riverbanks and topography, and has steep mountain and highland characteristics. The Douro Valley is very rough, with steep and craggy banks, and crossing the Douro River was difficult because of its inaccessibility. The river is accessible only through signalized paths and passageways. In these lands and villages, local communities found ways to communicate and develop relations, primarily peaceful, due to the identification of the limit in an uncontroversial manner. The Douro Valley is deep and perennial; for this reason, there are no existing doubts about the belonging of the territorial area located on the banks.

Another landscape characteristic distinguishes the area where the boundary left the Douro River and entered territorial land. The border lands belonging to Vimioso and landmarks that opened controversy and conflicts marked Outeiro de Miranda. These frontiers' marks are easily moved or destroyed and frequently open the debate around the borderline local passage. In Outeiro de Miranda, the delimitation is not well known, and in Villariño, conflicts increase and open changes and claims.

These two types of natural boundary characteristics open the debate on the linkage between natural attributes and local political, social, cultural and economic relations. The landscape is important in local connections and determines an implicit effect on daily social and cultural constructions. In this way, it is possible to say that borderline demarcation, where solid natural attributes do not mark it, is a process that implies changing its

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[94] *Demarcações de fronteira,* Vol. III, 57.

definition and signalization, sometimes inflected by local powers and conflicts that do not depend exclusively on significant decisions. Local communities adapt their conditions to the natural easiness of the contacts. From this perspective, the central government delimited the border and regional government, and communities took advantage of the fragilities.

Finally, it is essential to reinforce the importance of memory in the delimitation and justification of belonging. Memory is an important truth allied to the swearing process of the Holy Gospels. Those witnesses clearly understood the place perceptions based on their memory and their own land experiences. At the beginning of the 16th century, there was already a notion of historical landscape resulting from the generational accumulation of memories that solidified the natural landscape preparing the border for defence and control. Responding to the question Gonçalves:[95] the border exists, or is it a political creation that materializes only when conflicts take place? In conclusion, it is possible to say that local 16th-century residents knew the borderline, and the memories of the conflict reinforce its existence, and that the Douro River is a natural delimitation resource. The boundary as collective knowledge (memory) and as a reclamation of land rights in the borderland use and delimitation (physical marks) puts in relief that those landscapes have a particular significance to the local communities and daily life.[96] The GIS information signals and digitally represents the main features of the landscape. This opened the dialogue with the present territorial planning, putting in relief resilient heritage and opening the knowledge about some structures or historical landscape elements to promote protection, safeguard and management.[97]

Similar to Morales-Padrón,[98] who characterized Guadalquivir, Douro can also be characterized as a river of stories. A new question arises: are the rivers special border delineators but also special places for memories?

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[97] Pettit et al, "Landscape Analysis and visualization".

[98] Morales-Padrón, "La organización portuaria del golfo de Cádiz".

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