

Connecting *Italica*'s Archaeological Site to its Landscape: Three-Step Method to Unveil and Enhance Landscape Values through the Design of Cultural Routes

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The intricate character of the landscape is one of the main difficulties when reaching an agreement on its values. This information is, however, essential to operate on the landscape. The focus is on those methodologies that rely both on the recognition of the values and/or on the identification of those assets that hold them. Specifically, the analytical methodology for an integrated plan of the territory is reviewed. Based on this methodology, a method to design cultural routes as a strategy for connecting the archaeological sites to their landscapes by restoring the dynamics of landscape formation in their immediate environments is presented. This article aims to determine the actions and processes that enable the project of cultural routes to restore the dynamics of landscape formation. Those processes that allow us to recognise the landscape values and to extract some of the landscape's characteristic features are stressed. The area surrounding the archaeological site of *Italica* is used as a case study.

Keywords: landscape values; heritage; cultural route; restoration; archaeological site; *Italica*.

Introduction

The entry into force of the European Landscape Convention of 2000 (ELC) marks the beginning of a new stage in which the landscape arises as a fundamental element of those policies and strategies focused on the reinforcement of local identities. The definition proposed for the landscape and the innovative character of its legal protection regime, are highlighted because of their importance for our research. Twenty years after it was drafted, there have been many remarkable advances under the Convention. However, many policies and strategies have been accomplished that have not been able to effectively protect, manage, and plan the landscape. Examples include the multiple locations where some aspects specific to the territory — essential to recognize the landscape — have been ignored or, even, destroyed despite the legal protection regime for the landscape. This is thought to be largely due to planning practice centred on urban

development of the metropolitan areas. That is quite evident in the buffer zones of the archaeological sites, where the undermining and destruction of the territorial assets make it difficult to recognize the landscape and, consequently, the site appears decontextualised. Despite its prescriptive nature, it is believed that in some cases the ELC has not reached the desired levels of efficiency because of the limited scope of its provisions — the result of an agreement on the basics — and its extensive wording. This has led to a disparate scenario for the development of landscape projects (Montis 2014; Voguera 2011). In this sense, we have come to the conclusion that some independent guidelines need to be established to guarantee the interventions' efficiency, innovation, and sustainability, even when there is not a context prone to innovation on the subject of the landscape.

The conceptualisation and methodology proposed by the territorialist school is examined to determine these guidelines. The territorialist school is institutionalised as the Territorialist Society in Florence in 2011 (Poli 2018, 16-18). In its founding manifesto (Territorialist Society n.d.), the cultural and contextual motivations driving the Society's activities are described. The point of departure is the criticism of the strongly delocalised global economy model and its negative impact on the territory. The undermining and destruction of the territorial assets that have taken place in the last decades are representative of this negative impact. Progress towards a self-sustaining local development, focused on the territorial heritage as a sustainable source of wealth, is established as the common objective. Towards this objective, the territorialist school develops a methodology aimed to counterbalance the devastating effects of a delocalised global economy on the territory by promoting the enlargement of the territorial heritage. Three differentiating aspects of the territorialist approach are the description of the place identity based on a structural analysis of the territorial heritage, the targeting of the actions on the enlargement of the territorial heritage, and the engagement of local communities and other stakeholders both in the description of the place identity and decision-making. In terms of the latter, the territorialist approach is closer to other European works (Bailey 2012; Bieling and Plieninger 2017; Dale and Newman 2010; Delgado Anés and Martín Civantos 2016).

Although extensively developed before the ELC, the theoretical research undertaken by the territorialist school experiences a resurgence precisely provoked by the internationally agreed definition and the degree of legal protection from which the landscape has benefitted since the entry into force of the text. The main contribution of the territorialist school to the scientific debate after the ELC's approval is centred on the reconceptualisation of the relationship between the territory and the landscape. The starting point is the definition of the territory as that 'historical product that results from the coevolutive processes between the human settlements and the environment' (Magnaghi 2005 [2000]; Turco 1984; Vallega 1984; Dematteis 1985; Raffestin 1984). If the agreed definition of landscape proposed by the ELC is considered (Council of Europe 2000), it is concluded that landscape is illustrative of the construction of the territory. Consequently, landscape values are somehow related to this process of territory-construction in this approach.

From a practical stance, the efforts of the territorialist school are concentrated on landscape and territorial planning. *Piano Paesaggistico Territoriale della Regione Puglia* and *Piano di Indirizzo Territoriale della Toscana*, both developed following the territorialist conceptualisation and methodology, constitute two landscape plans built on a description of the place identity through the structural analysis of the territorial heritage. This description can be seen, in some respects, as a landscape character assessment. Several initiatives promoted by core members of the territorialist school before and after the entry into force of Tuscany's landscape plan evince some of the mechanisms to engage local communities and other stakeholders in describing the place identity and defining the main strategic lines of action (Magnaghi 2010; Poli 2019).

The integration of the landscape dimension into planning practice is achieved in the territorialist approach by means of an extensive definition of the territorial heritage. The Italian expression *patrimonio territorial* is here translated as territorial heritage. The expression refers to the set of natural and man-made assets resulting from the coevolutive processes between the human settlements and the environment that show evidence of this coevolution. It brings together a series of cognitive sediments, which comprise the milieu, and a set of material

sediments ‘that denote the territorial type and the landscape’ (Magnaghi 2001). In the methodological proposal underlying their research and practice, i.e., the analytical methodology for an integrated plan of the territory, the search for a fundamental part of the landscape values and the landscape character assessment are made through the structural analysis of the territorial heritage. This analysis focuses on its consolidated form and its historical evolution, i.e., its process of sedimentation. The application of the analytical methodology pursues the enlargement of the territorial heritage as a precondition to make progress towards self-sustaining local development (Magnaghi 2005 [2000], 2001; Ploeg 2009). Following the territorialist conceptualisation, a recent study concludes that this enlargement of the territorial heritage entails landscape regeneration (Merino del Río 2021a). Thus, a methodology to enlarge the territorial heritage is equally valid for a landscape project — such as that of the cultural routes — aimed at restoring the dynamics of landscape formation. It is important to notice that there is not a landscape to preserve, but some territorial assets denoting the landscape to consider if we are to restore the dynamics of landscape formation. These assets have characterised and conditioned the construction of the territory throughout history, lying behind the multiple representations of the landscape. The territorialist approach builds on a complex idea of landscape that comprises the object-landscape — the one denoted by the territorial heritage — and these representations (Quaini 2001, 6).

The territorialist proposal for landscape characterisation through the structural analysis of the territorial heritage comes in addition to other methodologies, such as that for a Historic Landscape Characterisation (HLC) (English Heritage 2000; Herring 1998, 2013) or for a Landscape Character Assessment (LCA) (Swanwick 2002). The widely used LCA is based on the identification of landscape values as a step towards the landscape character assessment (Butler and Berglund 2014), which is in line with the territorialist proposal. Notwithstanding that LCA ties in directly with the ELC’s definitions, this methodology has some deficiencies, such as the identification’s propensity to be limited to the aesthetic objective landscape values and so disregarding the historical values, among others (Butler 2016; Fairclough and Herring 2016, 186). The major virtue of the territorialist proposal lies in the fact that an analysis of the

territorial heritage focused on its morphology and historical evolution allows us to recognise a wide range of landscape values. These refer, on the one hand, to the relationships that characterise the consolidated form (origin of its current image) and, on the other, to the relationships that have historically conditioned the landscape formation. Therefore, this proposal is considered to be comprehensive, able to bring together the purposes of methodologies such as HLC or LCA.

This article gathers the conclusions on the sequence of sections and processes needed to direct the design of cultural routes towards the restoration of the dynamics of landscape formation. The organisation of the article aims to provide evidence for the correspondence between the three-step method for designing cultural routes and the analytical methodology for an integrated plan of the territory developed by the territorialist school. The latter is taken as a reference as it is considered that the mechanisms to enlarge the territorial heritage are equally valid for designing cultural routes in such a way that the dynamics of landscape formation are restored. Special attention is paid to the processes that enable the landscape values' extraction and assessment when establishing the sections that lead to the design of cultural routes. In terms of technical aspects, the three-step method for designing cultural routes can be implemented without the assistance of the geographical information systems (GIS). However, the way this method can benefit from the information technologies is considered in the wider description contained in the doctoral dissertation (Merino del Río 2021b). The application to the case study of the area surrounding the archaeological site of *Italica* (Seville, Spain) seeks to exemplify the method's functioning as well as to demonstrate the efficiency of the analytical device (Fig. 1).

In relation to the methodology followed in this article, the point of departure is an interpretative synthesis of the main axes and related actions that are thought to organise the analytical methodology for an integrated plan of the territory. A synthesis of a three-step method for designing cultural routes is presented afterwards. Here, the focus is on the way the analytical methodology is adapted to the landscape project of the cultural routes, concretely on the mechanisms for detecting and identifying the territorial assets denoting the landscape and for assessing the landscape character. These mechanisms constitute the necessary point of

departure for any intervention geared towards the restoration of the dynamics of landscape formation. Finally, following the principles of action research, the conclusions drawn from applying the method to the case study of the area surrounding the archaeological site of *Italica* are summarised.

The analytical methodology for an integrated plan of the territory

The main methodological proposal directed towards the enlargement of the territorial heritage is the analytical methodology for an integrated plan of the territory presented by Alberto Magnaghi in 2001. Based on the scientific literature, a sequence of phases around three axes are suggested that are meant to lead to the enlargement of the territorial heritage. The main axes are the territorial heritage, the place order, and the strategic scenario.

Since the very purpose of the integrated plan of the territory is the enlargement of the territorial heritage, the identification of the sediments of which it is composed is the starting point for any design strategy developed within this framework. According to the theory, the detection and identification of the territorial heritage is possible through the analytical description of the place identity and the territorial heritage (Magnaghi 2001). Actions under the first phase focus primarily on collecting and organising the information available on the cognitive and material sediments after the completion of a structural reading of the territory that takes hydrogeomorphological, ecological, and anthropogenic aspects into account. Particularly in relation to these anthropogenic aspects, attention should be paid to the analysis of the territorialisation processes. This allows us to detect and identify the territorial assets denoting the historic landscape. An extraction of the landscape values is achieved by an historical-morphological analysis of these territorial assets denoting the historic landscape.

The second phase is centred on place order, the so-called *statuto del luogo* in Italian. It is redefined in its instrumental dimension in the territorialist research. The definition of place order commonly shared by the authors of the Territorialist Society is suggested and defended in the 2007 version of *Osservazione al PIT* by Paolo Baldeschi and Alberto Magnaghi. Their conclusions are gathered in *Regole e progetti per il paesaggio* as an annex (Poli 2012, 257-266).

The implementation of place order in the analytical methodology for an integrated plan of the territory takes the form of the extraction of the structural invariants of landscape nature (Poli 2015, 151) and the rules for the transformation of the territorial heritage.

On the one hand, the individualisation of the structural invariants seeks to highlight the internal order and relationships underlying the specific form the territorial heritage has taken (Poli 2010, 480). This individualisation is carried out through the morpho-typological analysis of the territorial heritage according to four categories: the hydrogeomorphological characteristics of the watersheds and morphogenetic systems, the ecosystem characteristics of the landscape, the polycentric and network organisation of the settlement systems, urban and infrastructural, and the morpho-typological and functional characteristics of agri-environmental schemes of rural landscapes (Magnaghi 2014, 115). The landscape character is defined by the specific combination of the four structural invariants for each place. The balance between these four structural invariants is what has guaranteed the sustainability of the settlement system throughout history, as it implies taking into consideration the territory as a living base constrained by its own structure. On the other hand, the extraction of the rules for transformation focuses on the process of consolidation of the territorial heritage (Poli 2011). The intention is to discover the logic underlying the operations of generation, protection, reproduction, and transformation of the assets that have taken place in the long term and that have implied an enlargement of the territorial heritage. This information, characteristic of each place, is implemented in the plans or projects aiming to promote the enlargement of the territorial heritage.

Both the analysis of the territorialisation processes and the extraction of the rules for transformation focus on the diachronic dimension of the territorial heritage. They are geared, even if not explicitly expressed, to extract the landscape values and assess the landscape character, respectively. In this sense, both can qualify as historic landscape studies and thus the territorialist methodology relates to other European approaches to landscape. Worth noting, for example, the research on landscape biographies (Kolen et al. 2015a). This approach to landscape focuses especially on the temporal dimension of landscapes. Based on this expertise

HERCULES, an EU-funded research program for the long-term history, present-day management, and further development of the European landscapes, was developed (Kolen et al. 2015b). Research on landscape biographies and layered landscapes can substantiate the territorialist approach to heritage studies from the perspective of landscape studies. Conversely, the territorialist approach can provide valuable insight into the integration of historic landscape research with urban planning, landscape design, and public participation in local and regional developments — one of the key issues of the research on landscape biographies.

In the third phase, that of the strategic scenario, actions seek to make progress towards a self-sustaining local development based on the enlargement of the territorial heritage. On the one hand, the methodology establishes the need to carry out strategic visions of the future. The enhancing and introduction into operational use of the territorial heritage, taking proper account of the structural invariants and the rules for the transformation extracted in the second phase, acquire a central role. In this sense, the strategic scenario is presented as that phase of the methodology in which ‘the perspectives and content of reterritorialisation are expressed’ (Magnaghi 2001, 46). On the other hand, it is necessary to redefine the enhancement models, the planning and design instruments, and the governance systems (Magnaghi 2005, 8). In this scenario, landscape planning is regarded as an innovative instrument able to prompt the integration of the cultural assets and the areas of public interest in the wider context denoting them (Marson 2019, 18).

The actions and main axes that organise this methodology are considered equally valid for a landscape project aimed at restoring the dynamics of landscape formation, to the extent that they pursue the enlargement of the territorial heritage necessary to achieve this goal (Merino del Río 2020). The adjustment of the methodology to the multiple scales that can be affected by a landscape project and to the different strategies will depend on the broader or narrower scope of the detection and identification of the territorial assets denoting the landscape and of the landscape character assessment.

A three-step method for designing cultural routes

The proposed method for designing cultural routes as a strategy to restore the dynamics of landscape formation is divided into three sections, which are consistent with the structure of the analytical methodology for an integrated plan of the territory. These are the synthetical structural descriptions, the identity interpretations, and the strategic scenario. The proposed organisation guarantees the efficiency of the actions on the landscape by promoting the enlargement of the territorial heritage (Merino del Río 2020). The scope of each section is reduced when compared to the scope of the actions leading to an integrated plan of the territory to adapt the general methodology to the particular strategy. The scope affects the number of processes but also their development. The method addresses the landscape's indeterminate nature (in terms of its scale) by matching each one of the three sections to the three scales which we believe a landscape project should take into consideration. Therefore, the synthetical structural descriptions take on the regional and trans-regional scale, the identity interpretations focus on the geographical scale of the landscape area or areas affected by the landscape project, to which the extraction of the identity values refers, and finally, the strategic scenario is implemented on a local scale. The minimum processes that should be developed for each section are described by reference to the comparative study of the developments of *Piano Paesaggistico Territoriale della Regione Puglia* and *Piano di Indirizzo Territoriale della Toscana* (Merino del Río in press).

Although exportable to other locations, the method is applied locally to the buffer zones of the archaeological sites. Frequently, the landscape quality in these places is seriously threatened, even though it presents high patrimonial values. The archaeological sites that relate to the ancient major centres or settlements that have now disappeared are here considered part of the material sediments to be enhanced and introduced into operational use, together with the historic urban and rural settlements and some stretches of roads and trails that are the material testimonies of the historic means of connection and transport. The project of the cultural routes obtained by following the proposed method contributes to the restoration of the dynamics of

landscape formation. Furthermore, it is presented as a strategy able to promote the authenticity, integrity and sustainability of the archaeological sites. To this end, the definition of their buffer zones should exceed the limits of their technical demarcations. In this sense, the establishment of the boundaries of the landscape area or areas is fundamental to guide this exceedance of boundaries.

Synthetical structural descriptions

The starting point for our method is the detection and identification of the territorial heritage, as for the analytical methodology for an integrated plan of the territory mentioned above. The synthetical structural descriptions constitute a first step in the detection and identification of the material sediments that, because they possess some landscape values, are part of the territorial heritage. In our method for designing cultural routes, the synthetical structural descriptions are centred on the analysis of the territorialisation processes. By means of this analysis, the main territorial assets of the anthropic structure that have denoted the landscape over the course of history are detected and identified (Magnaghi 2017). In an attempt to adjust the scope of the method to the design of cultural routes, the structural descriptions are not just limited to the analysis of the territorialisation processes, but also the very scope of the analysis, which exclusively belongs to the settlements and the historic means of connection and transport. These are the elements more likely to become part of the routes.

As this analysis focuses on the archaeological site, the scope ranges from the local scale to the regional and trans-regional one. This promotes the identification of a larger number of territorial assets that could have denoted the landscape over the course of history and, consequently, of the landscape values that can be attributed to this characterisation. The analysis of the territorialisation processes is made on the basis of two complementary approaches to precisely detect and identify the territorial assets denoting the landscape and extract the landscape values. Using a diachronic approach, the historical analysis allows us to discern a series of intervals in which the main elements and the relationships between these elements that characterised the landscape would have remained more or less stable; in other words, those

periods when the patterns of the settlements and routes tend to consolidate in a distinctive way. These intervals correspond to the territorialisation phases that are to systematise the morphological analysis. Through a synchronic approach, the analysis allows us to make different assumptions about the morphology of the territorial assets denoting the landscape in each phase of territorialisation and then to extract their landscape values.

The proposed method to carry out this analysis of the territorialisation processes consists of a comparative study of the historical cartography and manuscripts, the scientific literature, and the georeferenced databases. The conclusions drawn from this analysis are gathered in the synthetical structural descriptions and, graphically, in a series of maps. These maps are ordered by phases of territorialisation. Here, the historic settlements, archaeological sites, and routes which nowadays constitute the material remains of the ancient patterns of regional organisation, denoting the landscape in each phase of territorialisation, are detected on an updated model of the territory. This enables us to recognise these territorial assets with landscape values as part of the territorial heritage.

Identity interpretations

In our proposed method, the section on the identity interpretations is comprised of the analysis of the sedimentary nature of the historic settlements and means of connection and transport, the analysis of the polycentric and network organisation of the settlement systems, urban and infrastructural, the delineation of the landscape area or areas, and the synthesis map of the territorial and landscape heritage.

The analysis of the sedimentary nature of the historic settlements and means of connection and transport is the process that allows us to extract the rules for transformation. These rules affect only a part of the territorial heritage, which represents a reduction of the scope of the process in comparison to the corresponding study of the analytical methodology. The analysis is supported by the drawing up of the historical synthesis map of the matrices and permanent features of the settlements. This map is a step forward in the synthesis and interpretation of the conclusions concerning the territorialisation processes. The analysis enables

us to register the process of sedimentation of the major historic settlements and means of connection and transport. The sedimentation is produced in a distinctive way for each place and, therefore, it is part of the characteristic features to consider when designing cultural routes. Meanwhile, the analysis of the polycentric and network organisation of the settlement systems, urban and infrastructural, allows us to draw conclusions regarding the third structural invariant — of the four identified by the Territorialist Society (Poli 2015, 151) —. Its extrapolation denotes a reduction in the number of processes in comparison to the structural invariants of the analytical methodology. It entails a morpho-typological analysis of the urban and infrastructural settlement systems. This study enables us to isolate the morphotypes of the settlements that have been consolidated over time as a result of the interaction of several factors, natural and/or human-induced (Alexander 2002). The process of consolidation is, again, specific to each place and a part of its characteristic features.

The delineation of the landscape area or areas affected by the design of cultural routes benefits from the two previous processes. This delineation is fundamental in that it enables us to recognise the terrains that are interrelated because they share some landscape values. Different landscape areas may have separate landscape values and so they may require individually tailored responses. The map of the territorial and landscape heritage gathers the conclusions drawn in relation to the contextual elements and structures that currently possess the landscape values and characterise the landscape of a certain landscape area. These maps are fundamental to making sure that actions regarding the landscape are based on those material sediments that actually possess the landscape values (Poli 2020). Its graphic synthesis outlines the strategic decisions for the future design of cultural routes.

Strategic scenario

Although the analytical procedure of the two first phases of the method is necessary to detect and identify the assets that hold the landscape values, the processes are not sufficient by themselves to promote an enlargement of the territorial heritage that feeds into the restoration of the dynamics of landscape formation. For this purpose, it is also necessary for a series of

guidelines to be identified, which gear the operations on the territorial assets towards this aim. These guidelines are defined in the strategic scenario. In our opinion, there are two projects that move the strategy of the cultural routes towards a restoration of the dynamics of landscape formation. These are the project for the requalification of the structuring roads and routes of the settlement systems with landscape values and the project for the territorial systems to put the archaeological site into sustainable, operational use. These also contribute to the authenticity, integrity, and sustainability of the archaeological site.

The project for the requalification of the structuring roads and routes of the settlement systems with landscape values focuses on those historic means of connection and transport that we have drawn from the analysis of the polycentric and network organisation of the urban and infrastructural settlement systems. Our project consists of requalifying the different stretches of the roads and trails that are part of the settlement systems consolidated over time on the basis of the potential for exploiting them (for road traffic, cycling, or pedestrians). An infrastructure network for soft mobility is, thus, generated. This requalification promotes the landscape accessibility. This also contributes to the restoration of the dynamics of landscape formation as it is based on the reactivation of the historic relations between the settlements which constitute the nodes.

As for the project for the territorial systems to put the archaeological site into sustainable, operational use, it deals with the specific need to intervene in the buffer zones of the archaeological sites. At these locations, the comprehensive reading of the cultural landscape is seriously threatened by the undermining of the territorial heritage. To put the archaeological site into sustainable, operational use, it is suggested that the three territorial systems are made to work together. These are the system for soft mobility (previously designed by means of the requalification), that of the historic settlements, and that of the patrimonial resources of public interest. The system for soft mobility is equally valid for improving the accessibility to the archaeological sites as it is designed on the structuring roads and routes of the settlement systems which also organised the ancient centres that characterised the cultural landscape.

The case study of *Italica*

The high degree of urbanisation of Seville's metropolitan area (Fig. 2) is considered one of the main causes of the significant destruction of the territorial heritage that has taken place in the last few decades. Some strategies aimed at restoring the dynamics of landscape formation are necessary to counterbalance the negative effects of urbanization on landscape, centred on this undermined territorial heritage. This destruction is particularly important around the archaeological site of *Italica*. This asset is part of a landscape with high patrimonial value, which is barely perceptible nowadays. The assets illustrating the co-evolution of the human settlements and the environment, which have conditioned the landscape formation throughout history, emerge in a fragmented way in the territory. The application of the three-step method for designing cultural routes to the case study of the *Italica* archaeological site enables us, firstly, to verify whether the series of processes incur any dysfunctionalities and, secondly, to make a proposal for cultural routes that contributes to the authenticity, integrity, and sustainability of the archaeological site as a part of a broader strategy for restoring the dynamics of landscape formation in the area of the lower Guadalquivir, where the site is contextualised.

Public resources put to use in Andalusia have allowed us to apply the method with the assistance of GIS in accordance with the procedures outlined in the theoretical proposal. The sample of historical maps subject to analysis to detect and identify the territorial assets denoting the landscape is obtained from different national and international catalogues such as those of the National Library of Spain (BNE), the National Geographical Institute of Spain (IGN), or the Spanish Ministry of Defence. It is limited to those graphic records in which *Italica* or its neighbouring settlements are represented on different levels (national, regional, and local). An inventory of the sample is gathered as an annex in the above-mentioned dissertation. The information from the analysis of the historical maps is compared and complemented with the scientific literature and the georeferenced datasets for the landscape values' extraction. The processing of information is done using QGIS software. Maps are created on an updated cartographic basis formed by datasets from the Andalusian Institute of Statistics and

Cartography, specifically, from the repositories Datos Espaciales de Referencia de Andalucía (DERA) and Localizador de Información Espacial de Andalucía (LINE@), and from the Andalusian Historical Heritage Institute (IAPH).

Analysis of the territorialisation processes in the territory of the lower Guadalquivir

The systematic review of the historical cartography and manuscripts, using interval-based time segmentation, makes it possible to analyse the territorialisation processes. The case study of the lower Guadalquivir is used for this demonstration, paying attention to the area around the archaeological site of *Italica*. The initial scope is extended by including the scientific literature, detailed studies, and georeferenced datasets in the analysis. This allows us to outline a more extensive assumption about the settlements and routes that could have characterised the landscape. The way this information is decoded and graphically synthesised provides a basis for an interpretation of the sedimentation process of the main historic settlements and routes (part of the territorial heritage) and of the morphological relationships between elements consolidated over time that characterise the landscape of the lower Guadalquivir.

Through a diachronic approach, five phases of territorialisation are established in the case study of the lower Guadalquivir (Merino del Río et al. 2021). This establishment enables us to systematically examine the morphological evolution of the patterns of the historic settlements and routes that have characterised the cultural landscape throughout history (Fig. 3). Far from representing an exception, landscape formation in our case study follows some dynamics similar to those seen in other regions of Southern Europe, such as in Puglia or Tuscany, which have been taken as references for this research. However, some differences are observed in relation to the phases of territorialisation, which respond to the specificities of each region.

The first territorialising acts took place coinciding with the rise of pre-Roman civilisations in the orientalisering period. Pre-Roman patterns of settlements were assumed at the beginning of the romanisation of the territory. An increase in territorialising acts following an expansionist logic is observed during the imperial period. The pre-existing patterns were

adjusted at that time in order to respond to the new hierarchies between the centres and settlements (Fig. 4). In the Middle Ages, an initial territorialisation of the hilly and mountainous lands took place. Until then, these lands had remained sparsely populated. The territorialising acts in this period (the establishment of centres and new means of connection and transport) fundamentally characterise the Andalusian historic rural landscapes (Fig. 5). The socioeconomic changes that took place from the beginning of the Modern Age until the Contemporary Age entailed a transformation of the patterns of settlements, as well as scientific and technical developments (Figs. 6 and 7). These patterns were consolidated and remained more or less unchanged until the middle of the 20th century. In view of the results, the proposed analytical procedure is considered to be enough to draw a conclusion about the processes of territorialisation that will help us to undertake future research. This analysis can be extended depending on the available resources, which may imply that more landscape values are discovered.

Identity interpretations in the landscape area of the lower Guadalquivir

Taking as a starting point the conclusions drawn from the analysis of the processes of territorialisation, the provisions set out concerning the development of the four identity interpretations enable us to assess the character of the landscape area. The settlements and routes that have conditioned the landscape formation in the lower Guadalquivir possess some landscape values, which separate this area from the adjoining ones. These values refer to the sedimentary nature of the main settlements and routes and to the morpho-typological particularities of the urban and infrastructural settlement systems that arise from a consolidation process over time. The four interpretations are central to defining a strategic scenario for designing cultural routes. The greater efficiency of this design depends on the precise identification of the sedimentary process of the main historical settlements and routes (Fig. 8) and of the consolidated patterns that tend to be followed by the dynamics for transformation.

A GIS-assisted interpretation has been developed in a way consistent with the method due to the accessibility of the updated georeferenced datasets. In our case study, the identity

interpretations have made it possible to suggest a landscape area delimitation that comprises 49 municipalities. The settlements and means of connection and transport have evolved under the environmental constraints and the different socioeconomic and cultural circumstances that have affected the area jointly. This has created a common sense of belonging over time. From a morpho-typological point of view, the area is comprised of five territorial formations (Fig. 9). Three different morphotypes lie behind these formations: the polycentric morphotype of the urban settlements of the vast floodplains, the polycentric morphotype of the network of settlements of the historical hilly landscape, and the spine-like morphotype of the mountainous settlements. Each one has some characteristic values and puts a strain on the territory. The synthesis of the conclusions in the map of the territorial and landscape heritage (Fig. 10) enables us to place the historic city of Seville as the main material sediment in *Italica's* buffer zone. Santiponce's modern hamlet has become established as a small historic centre close to the remains of *Italica's nova urbs* and the archaeological site of Cerro de la Cabeza. *Italica* was founded around *Hispalis* being part of a radio-centric system of settlements characteristic of the floodplains. This condition becomes consolidated over time and constitutes its main landscape value.

Even though no changes are included in the structure, after applying the method to the case study of the lower Guadalquivir, it is believed that the analysis of the sedimentary nature of the territorial heritage should be conducted at the same time as the analysis of the polycentric and network organisation or after. Both the development of the historical synthesis map of the matrices and permanent features of the settlements and the extraction of the rules for transformation require some notions of urban and territorial planning. The technicians in charge of designing the routes may lack this knowledge. This information is precisely what is extracted through the polycentric and network organisation of the settlement systems. The completion of the historical synthesis map of the matrices and permanent features of the settlements can thus benefit from altering the original order, as well as the precise extraction of the rules for the transformation.

Strategic scenario for designing cultural routes in Italica's buffer zone

The application of the third phase of the method to the case study has allowed us to verify the validity and efficiency of the analytical procedure. A series of guidelines for use are applied to those elements of the territorial heritage that we have identified as holders of landscape values in the lower Guadalquivir. These guidelines direct the actions on mobility to the enlargement of the territorial heritage. We suggest the definition of a strategic scenario comprised of two landscape projects where mobility is a key factor. These are the landscape project for the requalification of the structuring roads and routes of the settlement systems with landscape values (Fig. 11) and the landscape project for the territorial systems to put the *Italica* archaeological site into sustainable, operational use (Fig. 12). The application to the case study has shown the appropriateness of its sequential processing.

In the landscape project for requalification, an alternative mode of operation of the different stretches is proposed by means of some guidelines for use that are applied to the historic roads and routes with landscape values of the lower Guadalquivir. It fundamentally includes cycling and pedestrian traffic. The guidelines for use applied to the nodes, formed by the historic settlements, focus on the nature and scope of the equipment for modal interchange that guarantees the continuity of the stretches. The application of these guidelines for use enables us to design a soft mobility network that facilitates the universal accessibility to the territory of the lower Guadalquivir and enhances the consolidated historic relations between the settlements. This system for soft mobility is put into operational use together with the system of the historic settlements and of the patrimonial resources of public interest. The application of this guideline for joint use is limited to the buffer zone of the *Italica* archaeological site (Fig. 13). The demarcation of this area arises from enlarging the technical buffer zone along the historic routes that have conditioned *Italica's* process of sedimentation, and which form a network of routes for its contextualisation. The joint functioning favours the contextualisation of the *Italica* archaeological site, which is necessary to make progress towards putting it into sustainable, operational use. The restoration of the dynamics of landscape formation depends on

the enlargement of the patrimonial mass possible through the proposed design of cultural routes, as it is based on the elements and the relationships that have been consolidated over time.

Final remarks

This study consists in the adaptation of an existing methodology and its export to a context different from the Italian one. The most sensitive points of this adaptation and export are set out below.

Whereas the landscape character assessment required for an integrated plan of the territory covers a wide range of landscape values, the landscape characterisation for designing cultural routes builds on just some of these landscape values. Focus is on the settlement systems, urban and infrastructural, for their identification, which are only a part of the territorial assets denoting the landscape. Therefore, the degree of integration of the various territorial structures does not reach that of the integrated plan of the territory.

On the other hand, the problems that might arise in exporting the method to another case study are reduced due to the fact that both the territorialist analytical methodology and the method for designing cultural routes rely on a description of the place identity through the structural analysis of the territorial heritage by following a predefined analytical dispositive. The application of the three-step method to the case study has made it possible, however, to pinpoint a number of weaknesses concerning the export of the method.

One weakness is the high level of dependence on the sources available to detect and identify the territorial assets denoting the landscape, i.e., to extract the landscape values. We are talking about historical maps, scientific literature, or georeferenced datasets. For instance, when analysing the territorialisation processes in the lower Guadalquivir, no significant scientific evidence is found to make an assumption on the movement throughout the territory in pre-Roman periods. Thus, it is observed that the method, when applied by monodisciplinary teams, may fail to effectively connect important archaeological sites to their historic landscapes when sources are scarce. To solve this problem, whenever possible, it is highly encouraged to engage

academics from various disciplines in extracting the landscape values and assessing the landscape character.

A key point of the territorialist approach to territorial and urban planning is the engagement of local stakeholders in the landscape character assessment and the definition of the strategic scenarios. For greater operability, the proposed method for designing cultural routes does not consider a priori the interpretations of local communities and other stakeholders. In the event of such incorporation, it would affect the second and third sections of the method. By exporting the method to the Andalusian context, the engagement of local communities and other stakeholders in describing the place identity and defining the main strategic lines of action is subject to a preliminary study of the weaknesses and opportunities offered by the new social context. This is one of the most sensitive aspects of exporting the method to different places. Suffice it to observe the notable differences detected in this respect by Alberto Ziparo (2020) between the northern and southern Italian regions, even when their regulatory frameworks are based on the same territorialist analytical methodology. It will be the object of future research to explore how the engagement of local communities and other stakeholders can complete the description of the place identity — landscape character assessment — and the definition of strategic scenarios for designing cultural itineraries in the territory of the lower Guadalquivir.

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Figure captions

Figure 1. View of the ruins of *Italica*'s Roman amphitheatre from a hill north of the archaeological site, 2019. Photograph Rebeca Merino del Río.

Figure 2. View of the artificial riverbed of the river Guadalquivir and Seville from San Juan de Aznalfarache near the information centre for the archaeological remains of San Juan de Aznalfarache, 2019. Photograph Rebeca Merino del Río.

Figure 3. Hypothesis of the settlements and main transit and communications routes system in the territory of the lower Guadalquivir (a) in pre-Roman periods; (b) in the times of the Roman Empire; (c) in the Middle Ages and the 16th century; (d) in the 17th and the 18th centuries; and (e) since the beginning of the 19th century, 2020. Elaborated by Rebeca Merino del Río with the support of GEOMALANDAR S.L., through QGIS.

Figure 4. Anonymous, *Ptolomy, Geographia* (TLG 0363.009), late 14th Century. Manuscript, 435 x 310 mm, indeterminate scale. Source: The British Library. Collection: The Burney Manuscripts [Reference Burney MS 111].

Figure 5. Hieronýmo Chiaves and Abraham Ortelius, *Hispalensis conventus delineatio*, 1579. Engraved, 35 x 46 cm, ca. 1:600.000. Source: Biblioteca Nacional de España [Reference: MR/33-41/795/2].

Figure 6. Matías José de Figueroa, *Mapa De el Plano del Voraz, Asombroso y Asolador Río Guadalquivir...*, 1745. Manuscript, 47 x 131 cm. Source: Archivo Municipal de Sevilla [Reference: Pl. II-8-23].

Figure 7. Joseph Charles Marie Bentabole, *Hoja n° 230 del mapa de Andalucía a escala 1:100.000: El Aljarafe, Sevilla, la vega del Guadalquivir, los Alcores y campiña de Carmona*, 1811. Manuscript, 46,7 x 77,3 cm, 1:100.000. Source: Service Historique de la Défense, Département de l'armée de Terre (Vincennes) [Reference: 6M L12 B2 11 02].

Figure 8. Historical synthesis map of the matrices and permanent features of the settlements in the territory of the lower Guadalquivir, 2020. Elaborated by Rebeca Merino del Río with the support of GEOMALANDAR S.L., through QGIS.

Figure 9. Map of the morphotypes of the settlements and of the territorial articulations in the territory of the lower Guadalquivir, 2020. Elaborated by Rebeca Merino del Río with the support of GEOMALANDAR S.L., through QGIS.

Figure 10. Map of the territorial and landscape heritage of the landscape area of the lower Guadalquivir, 2020. Elaborated by Rebeca Merino del Río with the support of GEOMALANDAR S.L., through QGIS.

Figure 11. Project for the requalification of the structuring roads and routes of the settlement systems with landscape values in the area of the lower Guadalquivir, 2020. Elaborated by Rebeca Merino del Río with the support of GEOMALANDAR S.L., through QGIS.

Figure 12. Project for the territorial systems to put the archaeological site of *Italica* into sustainable, operational use, 2020. Elaborated by Rebeca Merino del Río with the support of GEOMALANDAR S.L., through QGIS.

Figure 13. View of Santiponce's modern hamlet from the archaeological site of *Italica*, 2019. Photograph Rebeca Merino del Río.