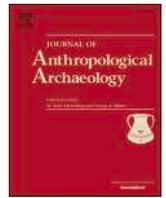


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## Journal of Anthropological Archaeology

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# The ways of an empire: Continuity and change of route landscapes across the Taurus during the Hittite Period (ca. 1650–1200 BCE)

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## ARTICLE INFO

**Keywords:**

Connectivity  
Dynamics of transformation  
Inter-regional interactions  
Hittite  
Late Bronze Age  
Settlement histories  
Trade  
Landscape monuments  
Historical geography

## ABSTRACT

Routes are part of broader 'landscapes of movement', having an impact on and being impacted by other socio-cultural processes. Most recent studies on connectivity networks remain highly topographic in scope, incidentally resulting in the restitution of a long term fixity. The anachronistic transposition of best known route networks across various ages, irrespective of context-specific circumstances, further enhances this static approach. On the other hand, when changes in connectivity are considered, trends are generally analysed over 'big jumps', often spanning several centuries.

This article aims to contextualise dynamics of change in route trajectories within shorter and well-defined chronological boundaries with a case study on the evolution of route landscapes across the Taurus mountains under the Hittite kingdom and empire (ca. 1650–1200 BCE). I will adopt an integrated approach to multiple datasets, aiming to investigate variables operating at different time depths. In the conclusions, I will argue that, while the Hittite route system in the target area was in part rooted on previous patterns of connectivity, some eventful shifts can also be individuated and historically explained. This enables, in turn, an enhanced perspective on the formation and transformation of Hittite socio-cultural landscapes.

## 1. Introduction

Starting from the Roman *Via Appia*, moving to the Achaemenid 'Royal Road', thence to the 'Straight Road' of the Qin Empire, or to the advanced Qhapaq Ñan network of the Inca, one can hardly escape the impression that great civilisations of the past were built on roads. A close relationship between routes and political landscapes is indeed implied in much theoretical work on pre-modern empires. Michael Mann (1986) often regards routes as a key factor in securing social cohesion within an empire through their enabling regular communications between distant communities and individuals. Moreover, in Mann's view, the success of empires very much depended on the capacity authorities had to mobilise 'compulsory cooperation', that is to integrate subject territories in a multi-faceted core-periphery dialectic through wholesale material and ideal infrastructures (Mann 1986: 130-77). With their role in enhancing the circulation of armies, goods, men, and ideas, routes represented the true backbone of this infrastructural system.

More case-oriented studies have emphasised the mutual interaction between communication logistics, socio-cultural landscapes, and economic models. In his extensive work on 16th century CE Central Mexico, for example, Ross Hassig (1985) stresses how changing patterns of

transportation affected urban landscapes through the late pre-Columbian and the early Spanish colonial period, in tandem with major shifts in economic interests. Moving to the Mediterranean area, Jason Dowdle (1987) shows how the existence of developed road networks in pre-Roman Gaul contributed to a relatively rapid economic growth of the region after Caesar's conquest and to its tight integration within the Roman power network. These and other studies along similar lines led to a general revaluation of routes as something more than mere lattices binding nodes in a network, advocating instead a more holistic approach to routes as part of broader 'landscapes of movement' interacting at various scales with other socio-cultural processes (Wilkinson, 2014; Alcock et al., 2012; Snead et al., 2009).

Within this understanding, political, social, cultural, and economic transformations may have a deep impact on mobility patterns and on the organisation of route landscapes, while changes in the use and disposition of roadways might in turn trigger new phases of political and economic interaction. However, in spite of this renewed focus, most of the recent studies on route networks remain highly topographic in scope, incidentally resulting in the restitution of a long term fixity. In the Near East particularly, landscape-oriented research of the past decades, aided by remote sensing imagery and paleo-environmental data, has

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<https://doi.org/10.1016/j.jaa.2021.101293>

Received 29 July 2020; Received in revised form 1 March 2021;

Available online 8 April 2021

0278-4165/© 2021 The Author(s).

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contributed immensely to the recognition of pre-modern connectivity systems, often obscured by taphonomic processes (Ur 2003; Wilkinson 2003: 60–62). For the Roman and Byzantine periods, the amount of data so produced has augmented an already-rich corpus of historical information, thus encouraging full-fledged diachronic approaches to connectivity dynamics (e.g. Turchetto 2018). By contrast, research on pre-Roman route networks relies more strongly on the archaeological record, mostly represented by unstratified data derived from surveys. In the best scenario, this allows the reconstruction of long term palimpsests, with little chronological resolution. Existing gaps are often filled through the anachronistic transposition of later route networks (e.g. modern, Ottoman, Medieval, Roman, etc.), thus further enhancing a static view (T. C. Wilkinson 2014: 88–94). Even when changes in route patterns are considered, data are generally classified in large meshed periodisation grids by which trends can only be analysed over 'big jumps', often spanning several centuries. Comparatively few attempts, however, have been made in order to contextualise dynamics of change in route networks within shorter and well-defined chronological boundaries. Such an attempt would contribute to a more complete picture on how connectivity affected and was affected by the formation and transformation of socio-cultural landscapes or by the contingent historical developments of a given geopolitical context.

With this in mind, this article aims to investigate long term use and short term shifts in connectivity during the Hittite kingdom and empire (ca. 1650–1200 BCE), focusing on routes across the Taurus towards Cilicia and Syria. These trajectories contributed to intense interregional interactions, testified throughout the 2nd millennium BCE by abundant archaeological and textual data on political, commercial, and cultural contacts, also including the ideological and linguistic spheres. Taurus routes to Cilicia and Syria thus represent an ideal case to investigate Hittite connectivity patterns in a fully-fledged diachronic perspective, taking into account variables operating at different time depths. In this purview, I will draw conclusions based on the integrated discussion of relevant geographical information, archaeological landscapes, and written sources. Geographical and archaeological datasets are considered especially useful for a view on the environmental constraints and long/mid-term variables of socio-spatial interaction. Textual sources, on the other hand, can provide the chronological resolution necessary to examine short term processes affecting this interaction and, ideally, shed light on the events that could have triggered relatively sudden structural changes.

## 2. Setting the scene: The Hittites and the Taurus region

Hittite history spans the entire Late Bronze Age (LBA) in the Eastern Mediterranean (Bryce 2005), covering approximately four and a half centuries (ca. 1650–1200 BCE).<sup>1</sup> At the beginning of this period, the Hittite state emerged in Hatti, in the bend of the Kızılırmak, from a mosaic of canton polities occupying North-Central Anatolia during the Middle Bronze Age (MBA; ca. 1900–1650 BCE). A first phase of Hittite history, termed the Old Kingdom (until the late 15th BCE), saw the Hittite rulers gaining supremacy in Anatolia, gradually and with

<sup>1</sup> Note on chronology: due to the lack of a chronological system of its own in Hittite record keeping, major problems still exist in fitting the Hittite royal sequence to an absolute dating framework. Moreover, floating chronologies for the 2nd millennium BCE in Mesopotamian or Egyptian contexts also hinder attested synchronisms. This article follows the so-called 'middle chronology', according to which the sack of Babylon by Mursili I dates to 1595 BCE (see Schachner 2011: 11–12). Hittite history should thus begin around 1650 BCE, if we include Huzziya I and Labarna I as predecessors of Hattusili I in the Hittite royal sequence (de Martino 2016: 18–22, with further literature). For an up-to-date overview on Hittite chronology and related issues, see Genz and Mielke 2011: 14–19. For more detailed treatments, see Beckman 2000; Wilhelm 2004; Dinçol 2006. For an overview on the Eastern Mediterranean, see now Manning et al. 2016, also favoring the 'middle chronology'.

alternating success. In the following phase, termed the Empire period, the Hittites acquired considerable geopolitical prestige by expanding their hegemony over much of Western Anatolia, the Northern Levant and parts of Upper Mesopotamia (Fig. 1). During the Empire period, the Hittites were also able to entertain intense military, diplomatic and commercial contacts on equal terms with the great powers of the time, such as Egypt, Assyria, and the Mycenaean world. The Hittite empire then collapsed at the turn of the 12th century due to an inner political crisis coupled with social and economic instability.

Episodically in the Old Kingdom and more steadily later, the Taurus mountains (Turkish Toros Dağları) ranged in the sphere of Hittite hegemony and control, especially in their central and eastern sectors. In the present target area, the Taurus chain forms a sort of diagonal strip separating two regions, defined by very different ecosystems (Fig. 2). The north-western sector comprises the Anatolian Plateau, rising to a mean elevation of 1100 m and mostly characterised by extensive arid or semi-arid zones (300–400 mm mean annual precipitation), interspersed with greener niches in intermontane valleys and mountain piedmonts. The southern sector is comprised of four fertile alluvial basins, shaping Cilicia and the Amuq. To the west, in so-called Rough Cilicia, we find the Göksu River, which carves its way through the mountains and then forms a wide fertile alluvium in its middle course, where it receives water from its main tributary, the Ermenek Çayı. The valley then narrows again down to Silifke before the river meets the Mediterranean in a small delta. Moving eastward through the narrow coastal strip of Erdemli and Mersin, we end up in Plain Cilicia, comprised of two fertile basins separated by the low Misis mountains: the Çukurova and the Yukarova, one formed by the Tarsus (Classical *Kydnos*) and Seyhan (Classical *Saros*) rivers, the other by the Ceyhan (Classical *Pyramos*) river and its tributaries. The sediments supplied by this substantial riverine system, fed by the Taurus streams, create rich alluvial soils suitable for intensive agriculture. Finally, to the east, past the Bahçe and Belen passes across the Amanus (max 2240 m), we find the Amuq, a triangular closed depression fed by the Orontes from the south, and the Kara Su and the 'Afrin from the north and north-east. To the east, the Amuq valley meets the drier low-rising Syrian platform (ca. 800 m), extending down to the Euphrates alluvium.

Formed along the Eastern Anatolian fault line between the Arabian and Anatolian plates, the Taurus chain emerges as a natural boundary between the southern alluvial plains and the northern steppe, thus functioning as a formidable barrier and, at the same time, as a corridor between the different ecosystems. The chain is itself comprised of several mountain systems. To the west, the Rough Cilician highlands comprise a rugged low-rising plateau interspersed with sunken basins. Past the Göksu valley, a coherent group is then formed by the Bolkar Dağ, an imposing limestone massif rising up to ca. 3500 m. Eastward, this sub-system is interrupted by the Ecemiş and other East Anatolian fault zones, defining the mountain sub-groups making up the Antitaurus, i.e. the high-rising Aladağları (above 3500 m) and the lower Tahtalı and Dibek Dağları (less than 3000 m). Various groups then form the chain past the Kara Su valley, continuing along the Eastern Anatolian fault line to meet the Euphrates basin in the Malatya area.

The Hittite empire was the very first historically known polity able to reunite both the Syro-Cilician and Anatolian sides of the Taurus under a single system of hegemonic and territorial control, which remained relatively stable for almost two centuries to the end of the 13th century BCE. Successful control across the Taurus was certainly owed in part to the well-known pragmatism of Hittite authorities, who managed to keep together different and often contrasting interests through the institution in Syria of a system of client relations (Beckman, 1995). A generally overlooked aspect, however, is that, in order to work, this system needed an efficient and secure route network that could grant the flow of necessary interactions between the Hittite heartland in North-Central Anatolia and the Syrian provinces. In this light, studying the disposition of routes towards the south and southeastern peripheries and their changes through time becomes critical for a fully-fledged understanding

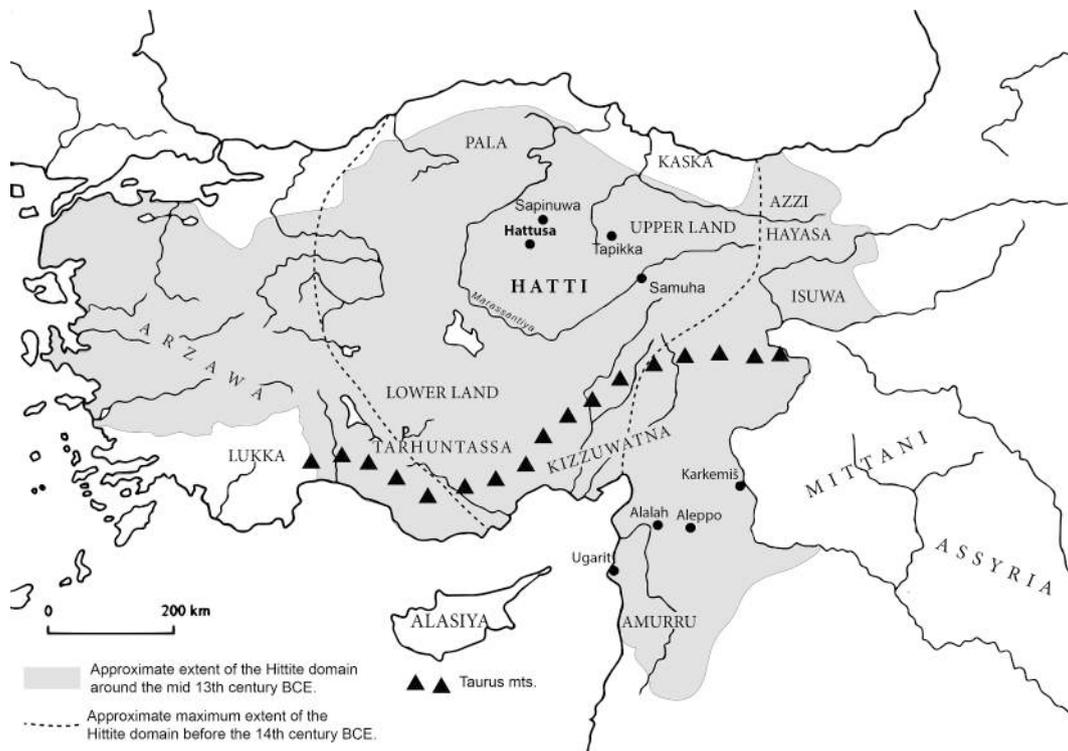


Fig. 1. Map of the Hittite domain, with the Taurus marked.

of socio-cultural dynamics at play in the Hittite domain. In a broader perspective, connections between the Hittite core region and the southern peripheries also played a crucial role in the diffusion of Anatolian cultural, social, and linguistic traits in Syria and Cilicia that shaped a cultural geography in the area which lasted until the Neo-Hittite polities of the Iron Age.

### 3. Methods of inquiry: Integrating multiple datasets

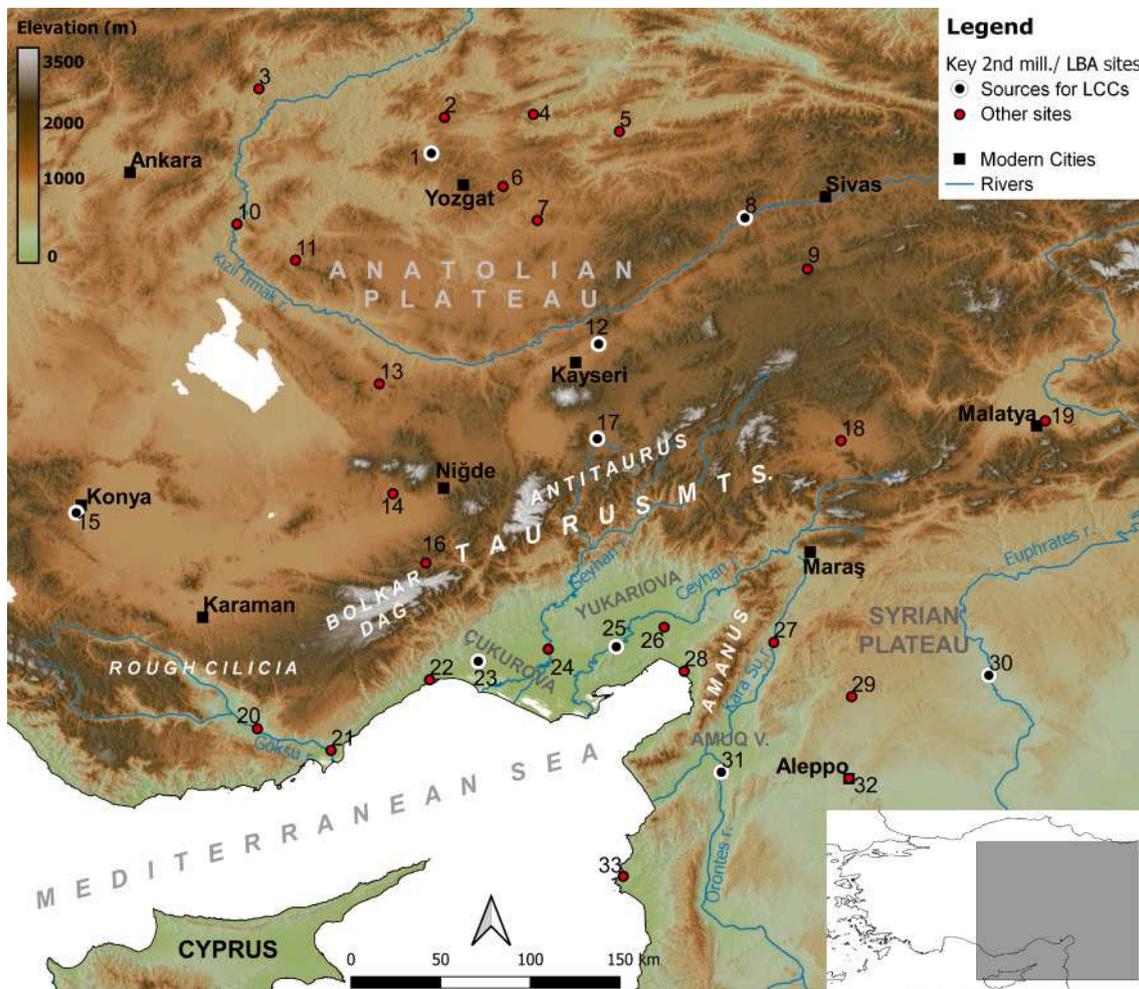
We have few or no direct clues about the actual organization of the Hittite route system. Although Hittite texts often mention roads and infrastructural facilities, such as bridges, only a few such features of possible Hittite or earlier date are known from the off-site archaeological record (Barjamovic, 2011; Ullmann, 2010; with references). In order to reconstruct the spatio-temporal layout of Hittite connectivity in the target area, I will weigh up several pieces of evidence, taking into account four independent fields of analysis: (I) geographic data on potential connectivity systems (GIS analysis); (II) material cultural frameworks; (III) the distribution of artifacts significant to the presence of routes; (IV) geographic information on routes and trajectories of communication drawn from relevant textual sources.

- (I) The study of ancient connectivity potentials has received a boost in the last decades thanks to the growing sophistication of Geographical Information System (GIS) packages, which provide a set of tools enabling users to model overland connectivity based on digital map data (Conolly and Lake 2006: 234-62). Widely known among archaeologists is the so-called least-cost pathway analysis, used to compute the path from a destination point to a source based on input maps representing the cumulative cost of crossing. However, one is also warned about the several limitations of this approach which can predict only one path, ignoring other possibilities of movement of similar cost or dictated by case-specific cultural or behavioural choices. Therefore, I will opt here for another more-encompassing method of connectivity

analysis, that outputs least-cost corridors rather than individual path lines (see Section 4).

- (II) The comparison of settlement data and material evidence of interregional contacts, signalled especially by imported or locally imitated foreign goods, provides good information on general trajectories of ancient connectivity and the evolution thereof. Both the Anatolian and Syro-Cilician sides of the Taurus are archaeologically well known, so that a number of key sites with substantial LBA occupation can be traced on the map (Fig. 2). While many of these sites, especially those situated in the Hittite core area, have been the object of long lasting excavations that produced a great deal of well published information, others provide more limited datasets. Despite these differences, excavated cultural sequences cumulatively shed considerable light on mutual interactions between and within the two broad regions. This is especially useful considering that the Taurus itself, lying in between, is very poorly explored. Here, in fact, LBA data are basically limited to the excavated sequences of Porsuk and Kilise Tepe, the latter complemented by extensive surveys in the Göksu valley (see below). This state of the art hinders the possibility to bridge patterns seen to the north and south, and to reconstruct dynamics of small scale connectivity able to complement long-distance ones.

As shown by Glatz in her archaeological approach to the Hittite empire (2009: 139, Fig. 10), the regions straddling the Taurus display different local receptions of the Hittite cultural package. In particular, local traditions in both Cilicia and the Plateau yielded quite homogeneous, almost standard, repertoires of plain, monochrome ceramic wares, all locally produced but deriving from technological and stylistic archetypes found in North-Central Anatolia (NCA), the Hittite core area (Schoop 2011). In the Amuq, the use of NCA-style ceramic was seemingly restricted to institutional areas of those sites that worked as local seats of Hittite administration, while minor centres displayed different traditions (Pucci 2020). NCA-style ceramic traditions do not seem to have penetrated further east into Syria.



**Fig. 2.** General map of target area, with distribution of the main 2nd millennium/ LBA sites. Key to sites (sources for LCCs in bold; Hittite or other 2nd millennium BCE names in italics): 1) *Hattusa/ Boğazköy*; 2) Alaca Höyük; 3) İnandiktepe; 4) *Sapinuwa/ Ortaköy*; 5) *Tapikka/ Maşat Höyük*; 6) Uşaklı Höyük; 7) Alışar Höyük; 8) *Samuha/ Kayalıpınar*; 9) *Sarissa/ Kuşaklı*; 10) Büklükale; 11) Kaman Kalehöyük; 12) *Kanes/ Kültepe*; 13) Ovaören; 14) Kınık Höyük- Niğde; 15) *Karahöyük-Konya*; 16) Porsuk (*Tunna* ?); 17) *Fıraktın*; 18) Karahöyük-Elbistan; 19) Malitiya/ Arslantepe; 20) Kilise Tepe; 21) *Tekirköy-Silifke*; 22) Yumuktepe-Mersin; 23) *Tarsa/ Tarsus*; 24) *Adaniya/ Adana*; 25) *Sirkeli*; 26) Tatarlı Höyük; 27) Tilmen Höyük (*Zalwar* ?); 28) Kinet Höyük; 29) Oylum Höyük; 30) *Karkemis*; 31) *Alalah / Tell Açana*; 32) Aleppo; 33) *Ugarit/ Ras Şamra*.

Several sites on both sides of the Taurus yielded samples of a specific ceramic class called the “Red Lustrous Wheel-made” ware (RLW-m). Notwithstanding many local imitations (Mielke 2007; Manuelli 2009), the RLW-m was mostly an imported ware class very widespread across the Eastern Mediterranean and originating either from Cyprus or the coastal region of Southern Anatolia (Eriksson 1993; Grave et al. 2014; Kibaroglu et al. 2019). Beside the ubiquitous RLW-m, assemblages in Plain Cilicia also include substantial Cypriot and Mycenaean imports that are comparatively much rarer in Central Anatolia (Kozal 2003; Mühlenbruch 2013).

The broad trajectories of contacts established in Cilicia during the LBA also continue afterwards and reach an apex by the mid-1st millennium BCE, with the integration of this region in an Eastern Mediterranean *koiné* mirrored in the linguistic landscape by the intersection of Anatolian, Semitic and, possibly, Greek elements (Yakubovich 2015; Simon 2018; Giusfredi, forthcoming).

(III) While no secure features of off-site Hittite roads have yet been found, other artefacts are often taken as general indicators of transit areas. Particularly useful to this scope are the LBA Hittite landscape monuments—monuments erected by Hittite kings or

elites in rural areas often remote from the main cities. Such monuments are scattered across Central Anatolia and are generally associated with wondrous places such as springs, lakes, rivers, ponds, and spectacular geological conformations (Harmansah 2014). However, it is also demonstrated that in many cases landscape monuments were erected in connection with major routes of communication (Stokkel 2005; Glatz and Plourde 2011; Massa 2016: 85-88).

(IV) Textual sources can be interpreted in order to extract information on Hittite itineraries and their use (e.g. Lorenz and Rieken 2007). Hittite texts are preserved in the form of cuneiform clay tablets, mostly deriving from the archives of the Hittite capital, Hattusa/Boğazköy, or from inscriptions accompanying the landscape monuments, always codified with another writing system adopted by Hittite rulers and elites, the so-called Anatolian Hieroglyphic. Hittite textual sources, chiefly the cuneiform tablets, are especially rich in geographical data, to the point that historical geography is nowadays a major branch of Hittite studies (Weeden and Ullmann 2017). However, despite this wealth of data, geographical information gained from Hittite sources has many limitations. Hittite texts, in fact, provide very little topographical information and only a few scattered clues about the localization and use of roads and itineraries. Moreover, in spite of the rich

repertoire of place names, numbering several hundreds (Del Monte and Tischler 1978; Del Monte 1992), only a handful of these are archaeologically known, while a few others can be quite safely located on the map.

In spite of their limitations, the fields of analysis I-IV encompass independent datasets that can be easily counterchecked with one another in a coherent evaluation. Integrating archaeological and historical evidence has the advantage of moving across the different time scales involved in each dataset (Bintliff 1991; 2004). In the present case, the first field of analysis sheds light on the topographic constraints affecting movement in the target area over the *longue durée*. The second field enables the evaluation of the mid-term dynamics of human interaction with and within such constraints during the LBA. The third field of analysis provides information on the degree to which given routes were embedded in Hittite ritual, ideological and commemorative practices. Finally, the fourth field provides a more fine-grained temporal resolution on the different experiences attached to the Taurus route landscapes and on the events that might have possibly affected their evolution.

In the next section, I will present the overall results relating to the first field. I will thus determine potential corridors and more general trajectories of connectivity which will guide the subsequent discussion. The latter will be then organised geographically, with Sections 5–8 each focusing on one or more potential corridors or trajectories, examined in relation to all fields of analysis. Finally, in Section 9, I will bring together the results and evaluate them in a coherent historical reconstruction.

#### 4. Connectivity across the Taurus: Computational approach

Most methods for computing connectivity on GIS draw results from cost surfaces or friction maps, that numerically express costs of movement between individual cells on a raster map (Conolly and Lake 2006: 215–25). An ideal friction map should account for different kinds of obstacles and difficulties that might be encountered while moving. These can be independent of the direction of movement (e.g. land cover: isotropic), operating only in a given direction (e.g. a river flow: partially anisotropic), or entirely changing with direction (e.g. slope: fully anisotropic). Many methodological implications are therefore involved in determining the costs to consider. Specific choices must be oriented by the research questions, in consideration of the purported use of the analysis.

Friction maps can be used in several ways in order to model connectivity (see White and Barber 2012; and Bevan 2013, for recent reviews). One of the most widely employed among archaeologists is least-cost pathway analysis that computes the optimal path proceeding through neighbouring cells from a destination point to a source. The basis for least-cost pathway algorithms are accumulated cost surfaces that draw from a friction map to compute the cost of moving away from (or to) the selected source. Despite the undeniable value least-cost pathway analysis has for archaeology, one is also warned of its limitations. The algorithm, in fact, does not take into proper account the complexities of human movement that does not automatically follow one single path, however easy it might be, but may also consider other, more costly but still viable solutions. Moreover, there are also several cultural factors involved in the choice for a path, which may include the travellers' own experience of the studied landscape, the available transportation technology, or the presence of settlements, political boundaries, taboos on access etc.

In the present work, computed connectivity modelling will be mainly aimed at providing a preliminary pattern of expected connectivity potentials that will be tested case by case in the subsequent discussion, also accounting for other evidence. For this reason, I will follow a simple approach here, considering only friction costs determined by topography, chiefly slope. On the other hand, I have opted for computing least-cost corridors (LCC) rather than least-cost paths, in order to pro-

vide a more comprehensive picture of possible transit areas (Pinto and Keitt 2009: 252–256; Palmisano 2018: 126–27). LCCs are drawn from conditional minimum travel cost surfaces (CMTC), that combine the cumulative cost surfaces respectively obtained for a source (A) and destination point (B) of movement according to the following formula:

$$CMTC = \frac{\text{Cumulative cost from A} + \text{Cumulative cost from B}}{2}$$

The final LCCs are then obtained by masking out all cells with CMTC values above the first decile, i.e. the value above which 90% of the average population lie. The result will be a raster grid representing a wider range of possibilities for movement than a simple least-cost path.

Data have been here processed through the open source software GRASS GIS 7.6v. The slope friction map was computed through the GRASS GIS module *r.slope.aspect* from a mosaic of Digital Elevation Models (DEM) generated by the NASA's Shuttle Radar Topography Mission (SRTM), freely downloadable online and offering worldwide coverage with a spatial resolution of 90 m (<https://earthexplorer.usgs.gov/>, last accessed November 2019). The accumulated cost surface upon which the LCCs are calculated has been obtained through the GRASS GIS module *r.walk*, which computes the anisotropic cumulative cost of moving using the DEM and the friction map as inputs.

The LCCs have been computed based on key 2nd millennium BCE sites respectively situated on the northern (a) and southern (b) sides of the Taurus (Fig. 2):

- (a) Hattusa (mod. Boğazköy), Samuha (mod. Kayalıpınar), Kaneš (mod. Kültepe), Konya-Karahöyük and Fıraktın.
- (b) Karkemiš, Alalah (mod. Tell Açana), Sirkeli, Tarsa (mod. Tarsus) and Silifke.

All these sites constituted key nodes within networks of interregional interaction during the 2nd millennium BCE. Hattusa was the capital of the Hittite kingdom and empire. Samuha, the main city of the Hittite Upper Land province now safely identified as the site of Kayalıpınar (Müller-Karpe and Müller-Karpe 2019a), often served as a temporary royal residence and headquarters for Hittite military operations (Lebrun 1976; Taracha 2007; de Martino 2016: 52).

During the MBA, Kaneš was the well-known hub of the Old Assyrian trading network in Anatolia (19th–18th BCE; Kulakoğlu 2011, with literature). Even if Kaneš itself was likely abandoned in the Hittite period, its environs yielded abundant evidence of LBA occupation and might thus have continued to work as a node in communications (Kulakoğlu 2014).

Konya-Karahöyük yielded substantial remains dating to the MBA, when it also functioned as an important node in the Anatolian trade networks (Alp 1994). It is debated whether this settlement was also occupied during the LBA and some scholars identify it with the important Hittite city of Ussa (Barjamovic and Gander, 2015, with literature therein). Konya-Karahöyük is situated just 7 km south of the modern city of Konya (Cl. *Ikonion*), certainly identified as Hittite Ikkuwaniya, seat of a local administration during the Old Kingdom (Forlanini, 2017: 244, with literature). Finally, as we shall see in a moment, the site of Fıraktın yielded abundant evidence of interregional contacts with the Eastern Mediterranean throughout the 2nd millennium BCE and lay in an area crowded with Hittite landscape monuments.

Attested direct contacts with the Hittite heartland requiring overland communications dictated the choice for the sites of group (b). Karkemiš was already an important commercial hub in the MBA (Marchesi 2014). After being conquered by the Hittite Great King Suppiluliuma I in the mid-14th century BCE, it became a seat of a viceroyalty governed by a branch of the Hittite royal family. For this reason, various princes and functionaries of Karkemiš were often sent to the Hittite capital and other Hittite cities of Central Anatolia, where they left their sealings and witnessed official acts.

Like Karkemiš, Alalah also is attested as a target of various military

operations led from Hatti by the Hittite kings or their generals. Sirkeli and Tarsus belonged to the domain of Kizzuwatna that, from the late 15th century onwards, became closely tied with Hatti in the political, economic and, above all, religious sphere. Finally, the area of Silifke is also included in the analysis due to its likely proximity to the coastal city of Ura, mentioned in Hittite texts as the most important Anatolian port, that mediated trading relations between Hatti and the Levant (see below). All the sites of group (b) yielded abundant archaeological evidence for a 2nd millennium/LBA occupation and, except Silifke and environs, they are all excavated (Goldman 1956; Woolley 1955; Yener 2010; Marchetti 2014; Novák et al. 2020; for Silifke and environs, see below). Due to their geopolitical relevance to interregional connections and their geographic distribution across the target area, the sites of both groups (a) and (b) represent ideal references for studying long term patterns of connectivity across the Taurus.

Given the focus on overland communications, the present GIS analysis does not include the coastal Levantine site of Ugarit, which I will bring into play later in this article for its crucial role in maritime communications. Ugarit, modern Ras Šamra, was a port city and capital of a canton state sitting on the coast close to modern Latakia (Syria). It had its floruit from the mid-15th century, when it became the main commercial hub of the Eastern Mediterranean until its final destruction around 1200 BCE. Ugarit was indeed incorporated into the sphere of Hittite hegemony by the mid-14th century, after the conquest of Syria by Suppiluliuma I, and remained loyal to Hatti until the end (Watson and Wyatt 1999).

Starting from these premises, the cumulative results of the spatial

analysis are illustrated in Fig. 3. For the sake of comparison, the map also includes a template of well-known pre-modern connectivity systems, namely the Roman and Byzantine road networks. This has been drawn from Harvard University's *The Digital Atlas of Roman and Medieval Civilizations* (<https://darmc.harvard.edu>, last accessed March 2020).

A series of corridors can be identified in Fig. 3. An eastern corridor would lead through the Kara Su river valley east of the Amanus up to Maraş and thence to the Kayseri area (Kaneş). This corresponds to a well-known highway, nowadays followed by the route D 825 between Maraş and Antakya. A branch of the Maraş corridor would directly lead to Samuha through the Elbistan plain, passing through the site of Karahöyük-Elbistan. Both variants of the corridor constituted a backbone of the Old Assyrian trade route network as the axes respectively connecting Kaneş to Mama (Maraş) and Samuha to Hurama, the latter possibly identified with Karahöyük-Elbistan itself (Barjamovic, 2011; Palmisano, 2018).

Several passages cross the Antitaurus sub-group of the Taurus chain west of the Maraş corridor, directly connecting the Plateau to the Yukarıova plain in eastern Cilicia. Nowadays, the main axis in this direction is represented by the Sivas-Adana road D 815, running along an open-through between the Dibeğ and Tahtalı mountains and entering Cilicia at Kozan. During the Byzantine period, another system protected by a series of fortresses passed west of this road, along the upper streams of the Seyhan river (Hild 1977: 123-125).

A central corridor runs from the Tarsus-Adana area to the Taurus through the Cilician Gates. The LCC then splits in two branches, one turning westwards alongside the Bolkar Dağ, the other continuing

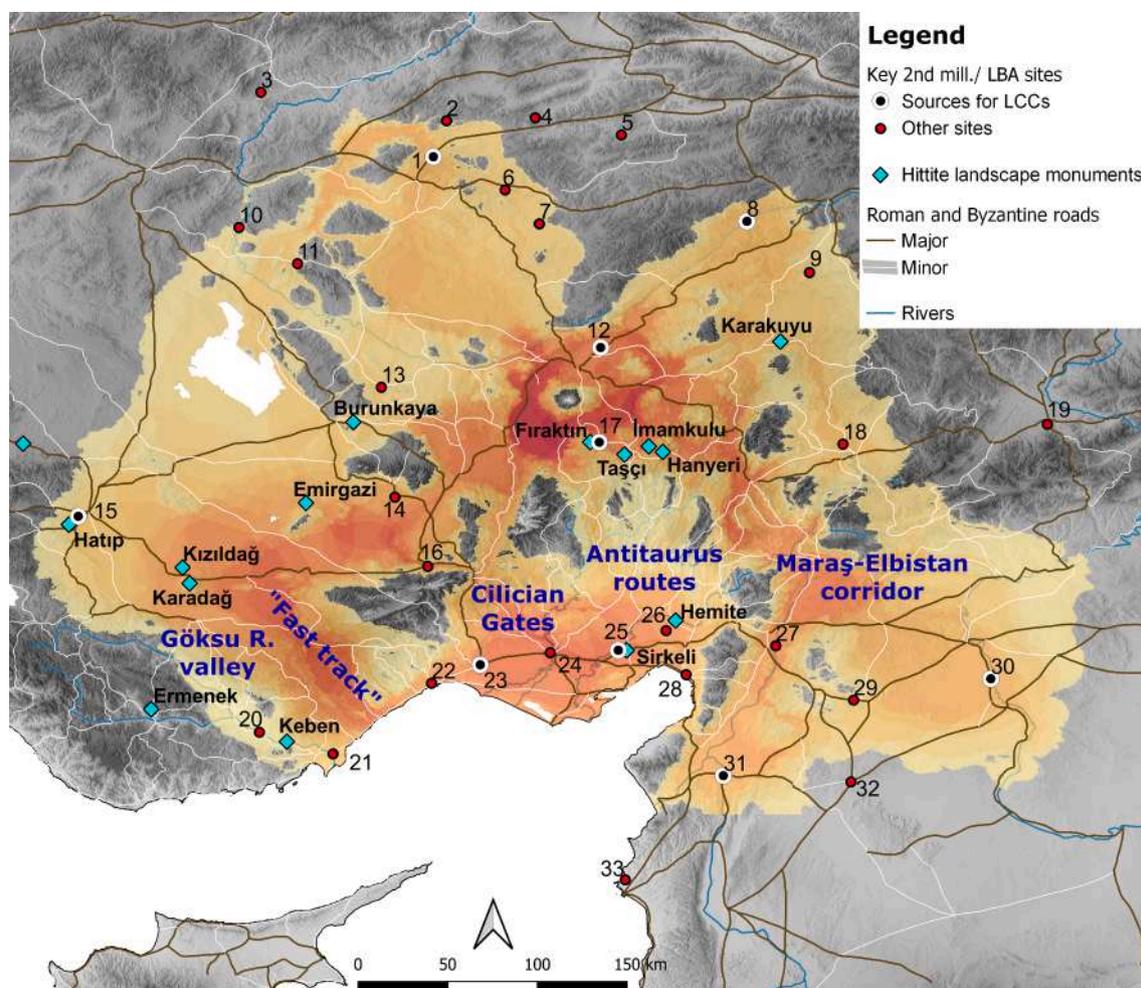


Fig. 3. Cumulative view of LCCs across the Taurus (shaded red), from Central Anatolia to Cilicia and the Levant, with the overlay of the Roman/Byzantine road network. Numbering of sites follows Fig. 2. (For interpretation of the references to color in this figure legend, the reader is referred to the web version of this article.)

northwards along the Ecemiş fault line and thence heading towards the Kaneş area. The first route, corresponding to the Roman *Via Tauri*, historically represented the primary axis to the Cilician Gates. The Ecemiş corridor held an important role in the Byzantine period and possibly allowed metal circulation from the Taurus mining districts to Cilicia during the 3rd millennium BCE (Hild and Hellenkemper 1990; Hacıoğlu 2017: 21). However, it will be left aside here because there is no secure evidence, either archaeological or historical, substantiating its use during the Hittite period.

To the west, we find two main corridors, a westernmost one following the valley of the Göksu River, and an easterly one running across the rugged platform separating Mersin from the Konya plain at Karaman. While the Göksu valley forms a well-watered alluvium, the Mersin-Karaman corridor looks inhospitable, because it runs for the most part in a barren arid territory, with few water resources bar a few streams. However, depletion of the area might be a relatively recent phenomenon that would hardly predate the intensification of human settlement and forest clearance occurred in Rough Cilicia during the Roman and Late Roman period (Akkemik et al. 2012). According to most commentators, the Karaman-Mersin corridor would correspond to the “fastest track” (ταχίστην ὁδόν), mentioned in Xenophon’s *Anabasis* as the route taken by the Cilician queen Epyaxa and her escort guided by Menon in order to reach Tarsus (Xenophon, *Anabasis*, 1.2.20; Williams 1996: 312-13).

The datasets employed for this analysis have been uploaded separately as part of this article submission.

### 5. The Maraş-Elbistan corridor

In terms of accessibility and feasibility, the Maraş and Elbistan branches of the eastern corridor (hereafter: Maraş-Elbistan corridor) represented the primary choice in overland connections between Hatti and Syria (Figs. 4 and 5). This broad trajectory was nested on well-documented tracks from at least the Old Assyrian colony period, and it ideally channelled most overland communications between Hatti and the southeastern peripheries, chiefly Karkemiş. The most direct itineraries connecting Hatti to the Maraş-Elbistan corridor would pass through the Hittite monument cluster of the Zamantı Su River, featuring the area around Fıraktın (Fig. 5, see below). According to textual sources, a permanent stage towards Karkemiş was represented by Tegarama, which scholars would locate either in the environs of Malatya (Barjamovic, 2011), or, more convincingly, in the Elbistan plain (Hawkins and Weeden 2017: 288-289, with references to Hittite textual attestations). Taking Hattusa as a starting point, either case would imply an indirect northerly path, first connecting Hattusa to Samuha (Ökse 2007), and thence leading south along the corridor to Karkemiş. Significantly, also this northerly itinerary would pass close to a monumental area, represented by the Hittite dam of Karakuyu, bearing a hieroglyphic inscription of Tuthaliya IV (late 13th BCE).

Tegarama is also known from Old Assyrian sources as a main stage across the Euphrates towards Kaneş and Hatti. This would imply that Hittites knew and, whenever possible, continued well-rooted habits of mobility between Central Anatolia and the Euphrates area. It would be interesting to see how this apparent continuity of transit along the

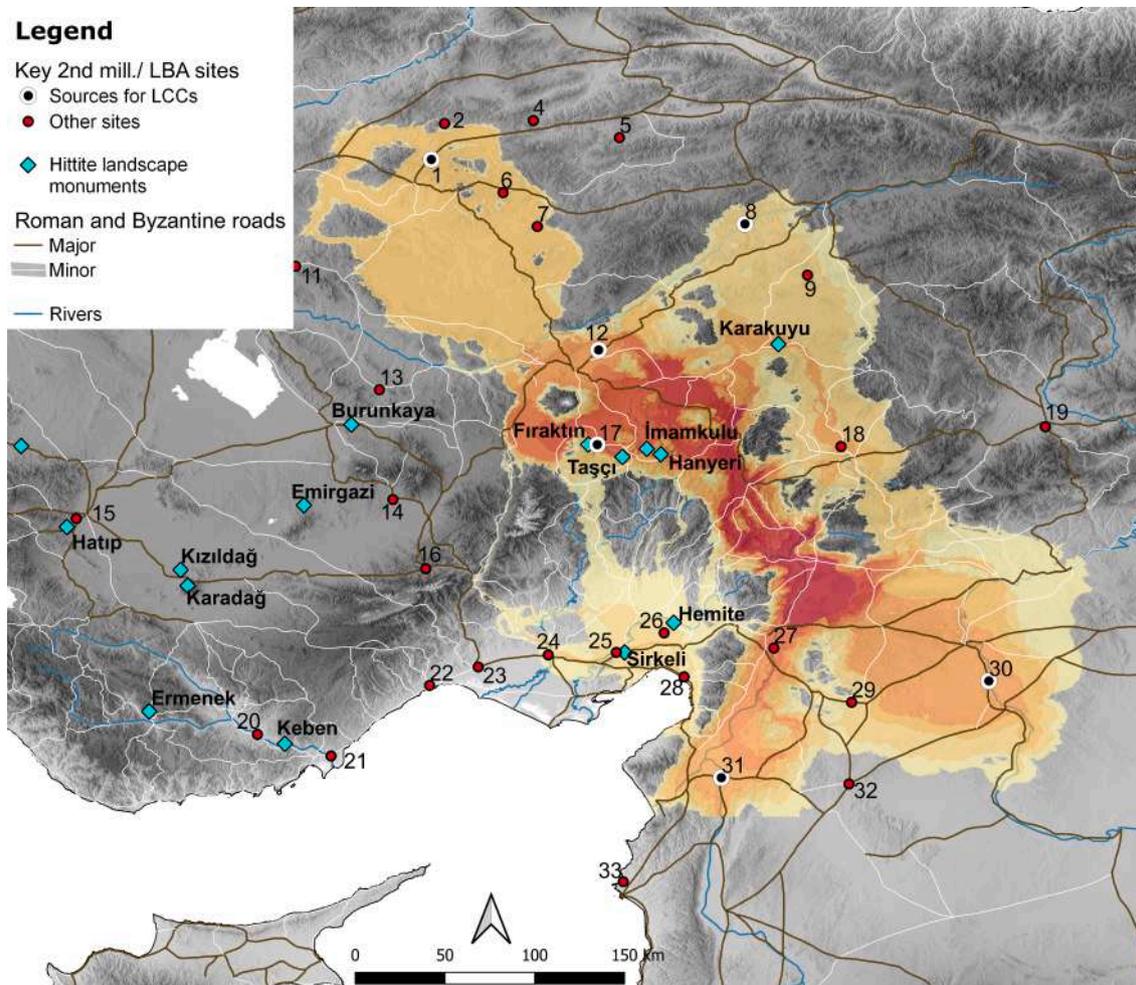


Fig. 4. Cumulative view of LCCs computed between Hattusa (no. 1); Samuha (no. 8); Kaneş (no. 12); and Fıraktın (no. 17) on the Anatolian side, and the Syrian sites of Karkemiş (no. 30) and Alalah (no. 31). Numbering of sites follows Fig. 2.

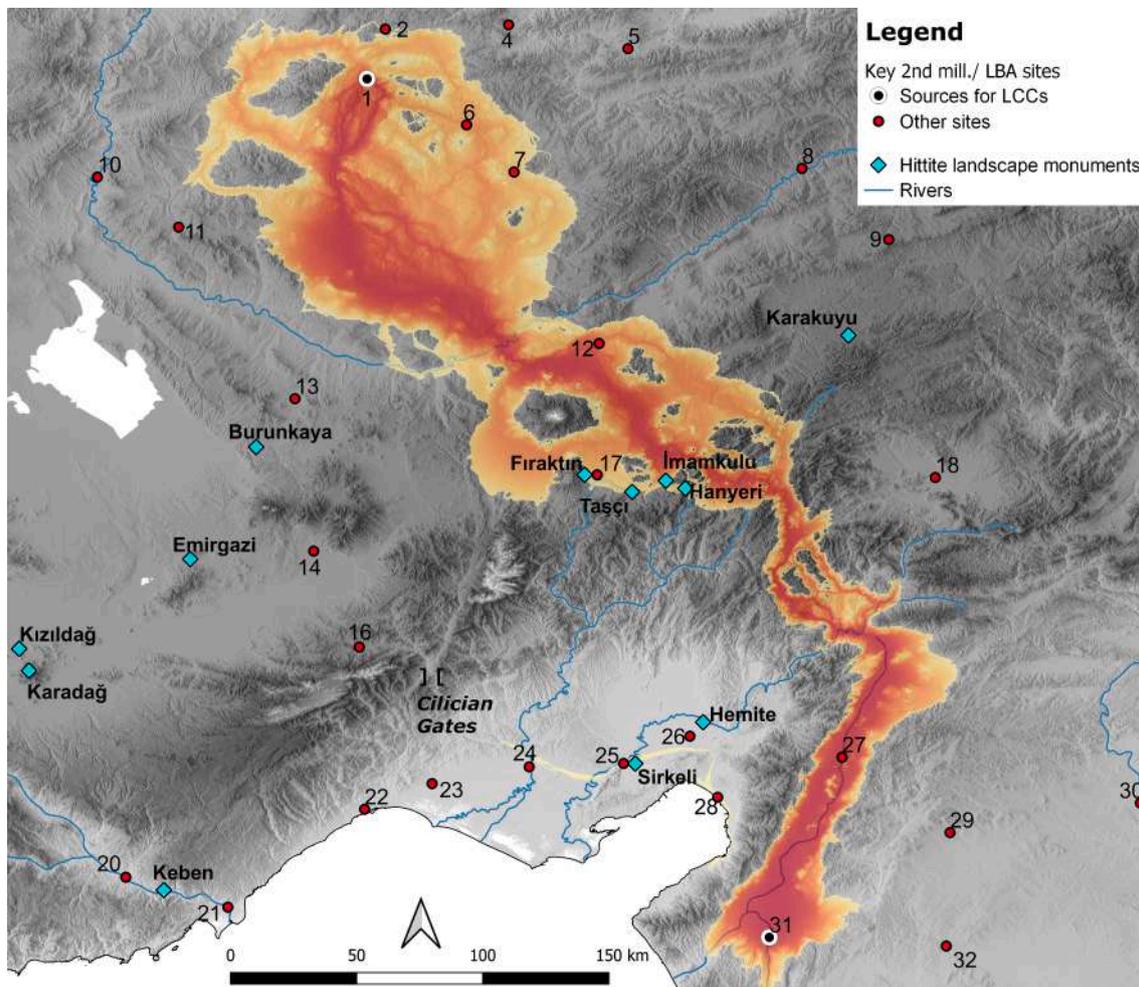


Fig. 5. LCC computed from Hattusa (no. 1) to Alalah (no. 31). Numbering of sites follows Fig. 2.

Maraş-Elbistan corridor relates to local settlement histories. However, the archaeological evidence that would supply the relevant information is exceedingly meagre, and the few stratified data from the shortlived excavations at Karahöyük-Elbistan do not seem to provide significant guidance in this sense (Özgülç and Özgülç, 1949; for the most recent project, see Uysal and Çifçi 2020). Surveys results would indicate that the Elbistan area already formed a cultural juncture between Eastern Anatolia, North Syria, and Central Anatolia in the fourth and third millennia BCE (Brown 1967). During the LBA, sites showing distinctive NCA-style cultural assemblages seem to have been strategically located in order to control traffic along valleys south and southeast of Maraş (Swartz Dodd 2007). Good proxies for trajectories of contact in the area also derive from the site of Arslantepe, corresponding to Hittite Malitiya (Fig. 2.19) This site, in fact, shows a tripartite range of LBA connectivity, focused on Central Anatolia, Syro-Cilicia, and Upper Mesopotamia, in great part nested upon trajectories already in place during the MBA (Manuelli 2013: 355–92).

## 6. The Antitaurus routes to eastern Cilicia

As the LCC analysis of Fig. 3 shows, the Antitaurus hosts several potential passages that could have served as corridors from Central Anatolia to Cilicia during the Hittite period. Along one of these trajectories we encounter the valley of the Zamantı Su River, an area that clearly had a special value in the Hittite landscape of power during the Empire period, because it is crowded with Hittite monuments (Fig. 6). As already mentioned above, this monument cluster had a meaningful

location halfway along the most direct route between Hatti and Syria through the Maraş-Elbistan corridor (Fig. 5). However, the whole area more likely worked as a crossroads, where routes also departed towards the south, i.e. to Kizzuwatna, in Plain Cilicia.

The best-known among the Zamantı Su monuments is the Firaktın relief, commemorating the Great King Hattusili III and his wife, Puduhepa (mid-13th BCE; Ehringhaus 2005: 59-65, with previous literature). Significantly, an Anatolian Hieroglyphic inscription referring to Puduhepa on Firaktın reads “daughter of the country of Kizzuwatna (*ka-zu (wa)-na* REGIO), beloved of the gods”. This inscription is generally interpreted as evidence that Firaktın lay close to the border between Hatti and Kizzuwatna. However, the direct reference to Kizzuwatna might more generally remark a symbolic connection with this region, materially conveyed through actual routes of communication. Forlanini suggests that Puduhepa, who was of Kizzuwatnean descent, followed the route through Firaktın in her travels to her native country (Forlanini 2013: 23). The Firaktın relief was certainly a place of ritual performance, likely devoted to the ancestor cult of the king and queen represented (Balza and Mora 2011: 221-22; Harmanşah 2014: 157-58, with further references). On top of the relief, not too far from the modern road, several cup-marks and hollows are carved on the rocky platform, serving for the placement of libations and cultic offers.

Ca. 15 km to the south east of Firaktın, along the Zamantı Su River, we find two rock reliefs situated ca. 100 m apart from each other, named Taşçı A and B, also dated to the reign of Hattusili III (Ehringhaus 2005: 65-70, with literature). Another 14 km ca. as the crow flies upstream of the Zamantı Su one would reach the İmamkulu relief, carved on a

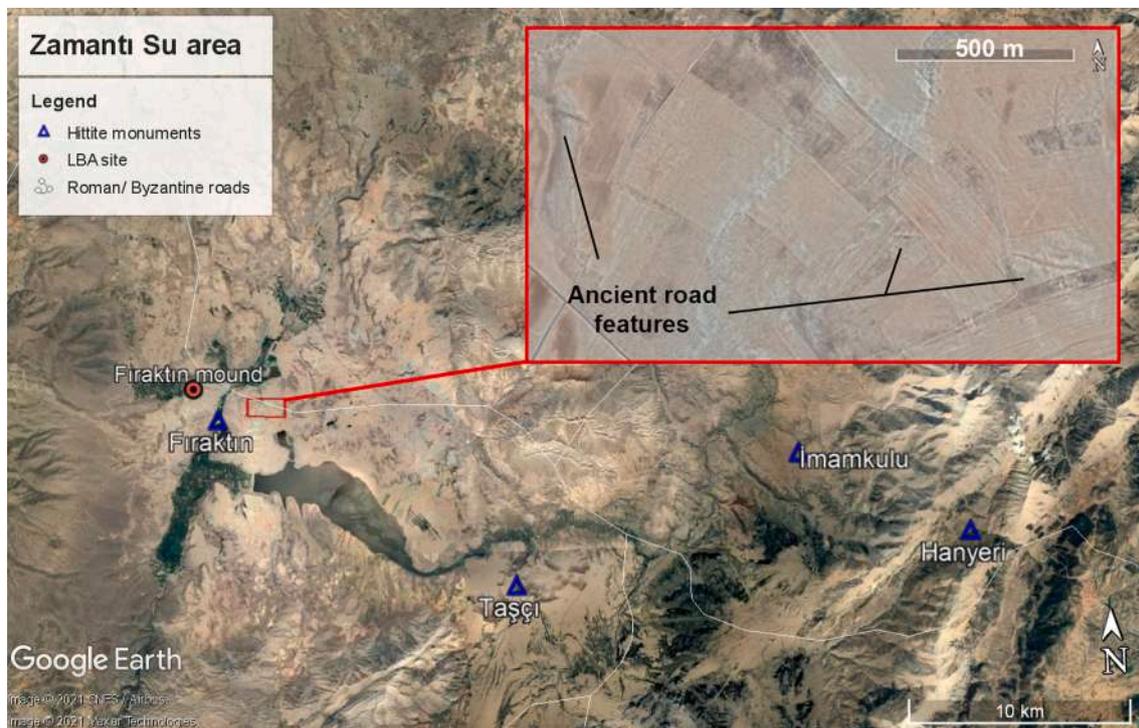


Fig. 6. Satellite images of the Zamantı Su monumental area and highlight on the ancient road features near Firaktın. *Google Earth*, earth.google.com/web/, last accessed February 28th, 2021.

boulder overlooking the valley underneath. The relief displays on the left a male figure carrying a bow and a spear and on the right various divine figures, dominated by a god on a bull-drawn chariot. Accompanying hieroglyphic inscriptions identify the god as the Storm God of Aleppo and the man as “Kuwalanamuwa, prince” (Hawkins 2003). Significantly, the same name also identifies a similarly-depicted man carved on the monument of Hanyeri, situated just on the eastern side of the Gezbeli Pass that leads from İmamkulu and the Zamantı Su valley to the Sivas-Adana road. Both the İmamkulu and the Hanyeri monuments are generally dated to the first half of the 13th century or, less likely, to the very late 14th century BCE (Ehringhaus 2005: 72-73; Glatz and Plourde 2011: 50, 56-57).

Nowadays, the Zamantı Su valley is crossed by small alleys of local relevance, but a web of relatively more important connections featured the area in the Late Roman and Byzantine periods (Hild 1977: 123-129). The clustered location of the Zamantı Su monuments at a fair regular distance and, above all, the close prosopographic relation between İmamkulu and Hanyeri at two sides of a mountain pass leaves little doubt that these monuments marked a major Hittite route, vested with symbolic significance by the Hittite rulers and elites (Forlanini 2013: 20-24; Ünal 2014: 478-79; see also Stokkel, 2005). Besides prince Kuwalanamuwa, the Hanyeri monument bears the name of another prince, Tarhuntapiyami, who has been connected with Tarhuntapiya, featuring as patronymic in the monument of Hemite located in the Yukariova on the Ceyhan river (Hawkins 2000: 39, fns. 15–16). If so, this would be a further proof of the intimate relation between the Zamantı Su monument cluster and Cilicia through a route in this direction.

The finds excavated in 1947 by Tahsin and Nimet Özgüç on the Firaktın mound, ca. 1.8 km north-west of the namesake relief, are much revealing as to the long-distance connections the Zamantı Su area was involved in during the 2nd millennium BCE (N. Özgüç 1955). A MBA Old Babylonian seal is reported from a no better defined “refusal” context considered intermediate between the two levels dating to the 2nd millennium. Interactions on a similar scale, but more oriented towards the Mediterranean, continued in the later occupation, defining the LBA-Hittite period on the mound. Finds from this level, in fact, comprise

an Aegean-style bronze knife and, consistent with this trajectory, a Mycenaean stirrup jar dating to the very late 13th – early 12th century BCE (Late Helladic IIIB2-C) (Kozal 2017: 119-120, 122). These objects make the mound of Firaktın one of the very few findspots of LBA Aegean artefacts across Central Anatolia. In addition, an Egyptian scarab bearing the name of pharaoh Amenhotep III (ca. 1400–1350 BCE) found in an IA context must have migrated from the LBA occupation level (Kozal 2017: 116). These few findings prove that during the Hittite Empire period the site of Firaktın and the Zamantı Su area were deeply involved in far-reaching Mediterranean networks and therefore were connected to southern Anatolia and Syria through a major highway (Kozal 2018: 225–227). Interestingly, clear features of an ancient road 10 m wide connecting the mound to the Gezbeli pass are still visible on satellite imagery ca. 2 km east of the Firaktın relief (Fig. 6).

Most scholars consider that the Antitaurus routes channelled the main traffic between Kizzuwatna and the Hittite province of the Upper Land (Forlanini 2013: 20-24). As a matter of fact, routes across the Antitaurus represent a main option in the LCC computed from Samuha to Sirkeli (Fig. 7). These LCCs follow natural paths that skirt by close the Zamantı Su area. However, the cultic and commemorative significance of especially the Firaktın monument suggest the Zamantı Su was a transit area that could hardly be avoided.

Ties between Samuha and Kizzuwatna are especially evident in the religious sphere. First contacts in this sense were seemingly made around the late 15th century, when king Tuthaliya I transferred to Samuha the cult of the Kizzuwatnean “Deity of the Night”, a hypostasis of İstar/Šauška, Samuha’s patron deity (Miller 2004: 350-356). This event can be seen in the frame of a general process of acculturation from the southeastern peripheries, that had an outcome in the diffusion in Central Anatolia of textual traditions in Hurrian, a language foreign to Hittite mainly spoken in Cilicia, Upper Mesopotamia, and Northern Syria (Klinger 2010; de Martino 2017). Samuha could have played a major role in this process (Corti 2017: 11, fn. 35), as is now suggested by the copious textual production in Hurrian recently found on the site itself (Wilhelm 2019).

Significant to this point, one of the Hurrian tablets from Samuha,

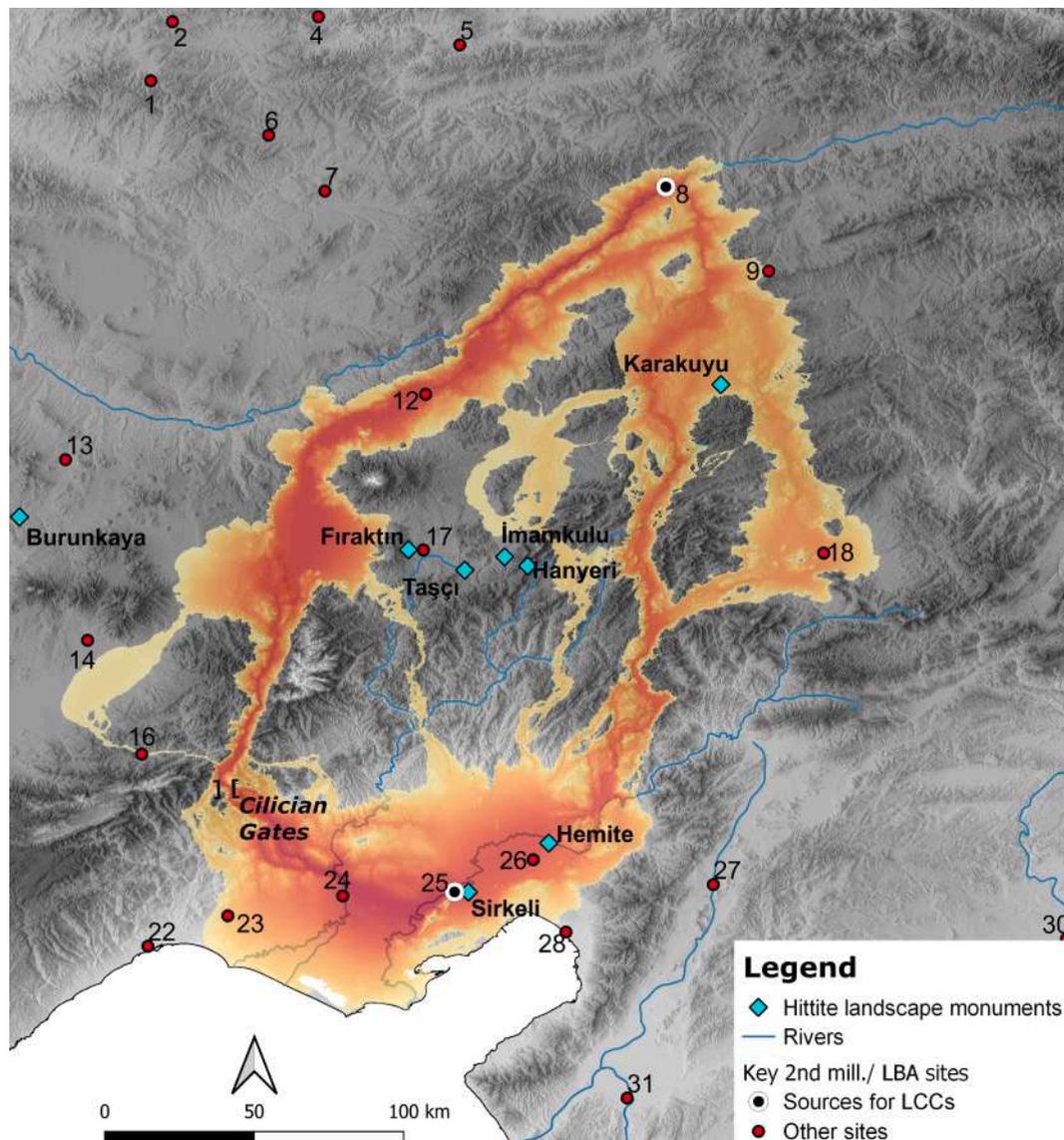


Fig. 7. LCC computed from Samuha (no. 8) to Sirkeli (no. 25). Numbering of sites follows Fig. 2.

KpT 1.11 (Kp 05/226), is a narrative account of military operations in Kizzuwatna and Syria against Mittani, a Hurrian kingdom based in Upper Mesopotamia (Wilhelm *apud* Rieken 2009: 130-35; Wilhelm 2019: 197–200). This text is attributed to the reigns of either Tuthaliya I (Müller-Karpe and Müller-Karpe 2019a: 5-6) or Tuthaliya III (Wilhelm 2018: 475, fn. iii), and would thus be a further testimony of strong interactions between Samuha and the southeastern peripheries between the late 15th and the early 14th BCE. It is worth noting that the Kizzuwatnean toponyms preserved in KpT 1.11, Zunnahara and Winuwanda, were all likely located in the Yukarıova (Hawkins and Weeden, 2017; Novák and Rutishauser, 2017, with literature), best connected to Samuha precisely through the Antitaurus routes.

## 7. The Cilician Gates

Since the earliest explorations by Ramsay and Garstang, the main highway in the Hittite route system towards the southern and south-eastern peripheries of the empire has been considered as passing through the Cilician Gates (Ramsay 1903; Garstang 1910: 46-48; Forlanini 1988: 129 and 134; Forlanini 2013: 14-20). This view has consolidated in Hittite historical geographical research, being only recently contested (e.g. Ünal 2014: 477).

The ancient use of the Cilician Gates as a natural link between the Central Anatolian plateau and the Mediterranean is documented by Greek and Roman geographers and historians from the 5th century BCE. This was the route taken by Cyrus the Younger and the bulk of his Ten Thousand Army during the *anabasis* from Sardis to Babylon (Xenophon, *Anabasis* 1.2.20–22) and by Alexander the Great when marching towards Issos (Curtius Rufus, *Historiae Alexandri Magni*, 3.4.1–15). Later on, the Cilician Gates were incorporated into the Roman *Via Tauri*, thus becoming truly pivotal in the road network across Asia Minor. Today, the Cilician Gates are crossed by the “Baghdad railway” and by the Ankara-Adana road (O-21) which is one of the main fast-lane highways in Turkey and the only one in a north–south trajectory from Central Anatolia.

Scholars have argued that an intensive use of the Cilician Gates occurred since at least the later prehistory (Bikoulis 2012). As Ünal observes (2014 : 477), the Old Assyrian itineraries followed the Maraş-Elbistan corridor, skirting Cilicia and thus the Cilician Gates. However, it is now clear that Cilicia was not at all excluded by MBA trade routes, but it was probably a node in another network, competing with the Assyrian one and having its poles in Syria and in the Konya plain, if not further to the west (Palmisano 2018: 141; Elsen-Novák and Novák 2020, with literature).

Negative evaluations of the four fields of analysis outlined above (Section 3) lead us to question the importance of the Cilician Gates as a main highway during the Hittite period. To begin with, LCCs computed from Hatti to Syria skirt Cilicia altogether, instead taking the Maraş-Elbistan corridor (Fig. 5). Secondly, not a single Hittite landscape monument has yet been found along the *Via Tauri*.

Also textual information deemed to refer to the passage across the Cilician Gates is meagre, segmented, and inconclusive overall. It is generally assumed that the road of the Cilician Gates was taken by Hattusili I in his Syrian campaign as told in his own “Annals” (Beal 1986: 425-426; Bryce 2005: 70; Hattusili I’s “Annals” edited by Devecchi 2005; De Martino 2003: 21–79). This interpretation, however, is fraught with many historico-geographical uncertainties. Moreover, there is no toponym confidently attributable to Kizzuwatna, i.e. Plain Cilicia, attested in Hattusili I’s “Annals” or related sources (Miller 2001; Cohen, 2017: 296–98; Hawkins and Weeden 2017: 291-93; contra Forlanini 2019).

Some scholars even retain the view that, throughout the Old Kingdom, Cilicia ranged out of Hittite political control and thus could not represent the default transit zone towards the south (Ünal 2014; now also Trameri 2020).

Another oft-cited document in relation to the Cilician Gates is KUB 57.87+, II 1–13, a fragmentary list of local cults possibly making up part of a prayer of king Muwatalli II (early 13th BCE; Singer 1996: 165-167). In the light of the geographic data contained in this document, Forlanini (1988: 135-140; 2013: 16–19) interprets it as the description of an itinerary roughly corresponding to the *Via Tauri*. However, this interpretation is entirely speculative. Divine lists like KUB 57.87 are generally governed by other principles than mere geography and their apparent geographic consistency may be induced as a false perception (see especially the remarks by Kryszewski 2014: 426-427). Singer (1996: 165-167) also compares KUB 57.87 with another more famous and complete prayer of Muwatalli II, CTH 381, whose main organizing principle is divine hierarchy rather than geographic location of the cults.

Consistent evidence allows the location of various Hittite toponyms

in and around the area of the *Via Tauri* (Fig. 8). The Hittite toponyms Hupisna and Tunna are generally identified with the Hellenistic towns of *Kybistra* and *Tynna* respectively. Hupisna occurs in Hittite texts in a cluster with Tuwanuwa, corresponding to Tuwana in Neo-Hittite inscriptions of the 1st millennium, and *Tyana* (mod. Kemerhisar, Niğde province) in the Hellenistic and Roman periods. On the southern side of the Taurus, at the southern exit of the Cilician Gates, we definitely know the location of Hittite Tarsa, i.e. modern Tarsus, and Adaniya, i.e. modern Adana. Another likely candidate outpost along the *Via Tauri* might be the toponym Paduwanda, attested only once (CTH 225, obv. 26; Imperati 1977: 26-27), but possibly continued as Classical *Podandos* and modern Pozantı (Forlanini 2013; 2017: 240–42; Rutishauser 2020: 156-57). If these and other related identifications are correct, all these toponyms can be pointed out on a map and connected along itineraries roughly consistent with the *Via Tauri*. However, no such itinerary is directly attested and can thus be postulated only *a posteriori*. In summary, while it is possible that the path of the *Via Tauri* and its branches were known and likely used at some point in Hittite history, we have no secure textual evidence of an actual Hittite frequentation of this road.

The most relevant evidence about the use of the Cilician Gates during the Hittite period is deemed to derive from the site of Porsuk/ Zeyve Höyük. This site yielded two LBA levels (Levels 5–6), both sealed by thick destruction deposits deriving from a violent conflagration. Due to its location just at the northern entrance of the *Via Tauri*, Porsuk is widely considered having been a Hittite outpost aimed at controlling this access.

Former views based on historico-geographical speculations and outdated interpretations of ceramic finds bracketed the LBA occupation at Porsuk squarely within the Hittite Empire period (Dupré 1983: 41-42; Pelon 1991). Accordingly, Porsuk was considered to be a new foundation of the 14th century that, at the end of the 13th century, went through a violent destruction in the turn of events which marked the collapse of the Hittite Empire (Pelon 1991). Moreover, Porsuk is generally identified with the above-mentioned Hittite toponym Tunna/Cl. *Tynna*, attested in 14th and 13th century texts, mostly in connection

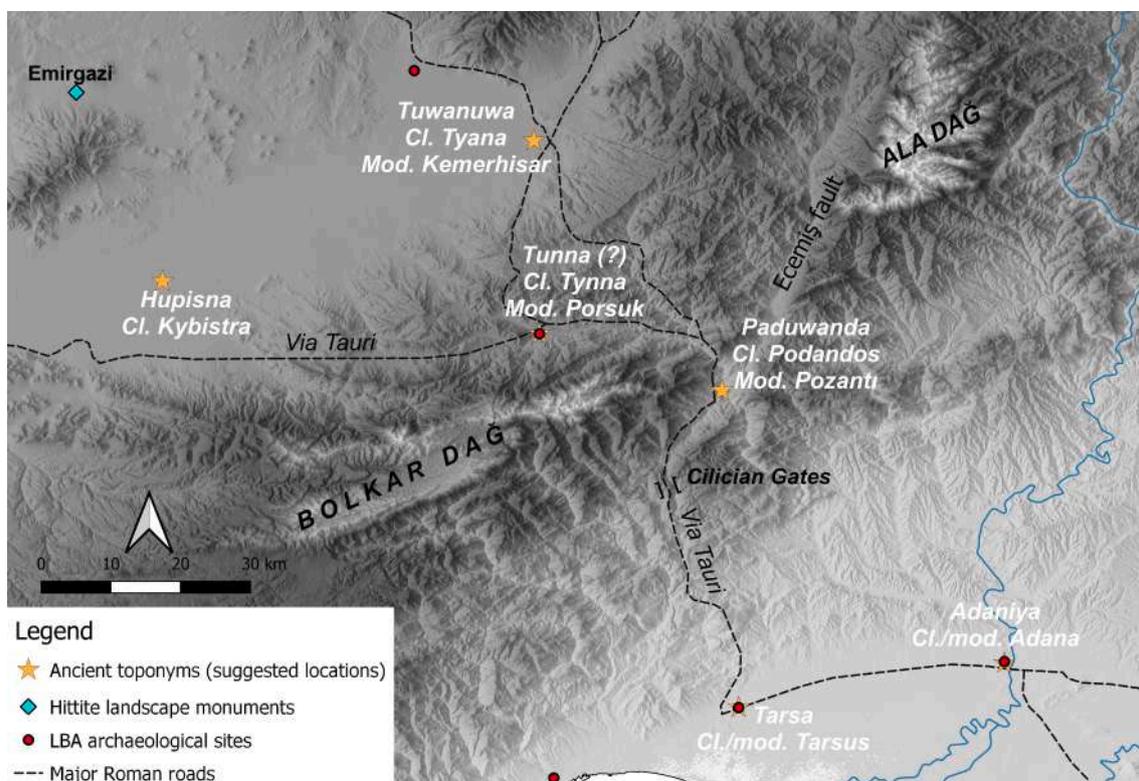


Fig. 8. Map of the Cilician Gates area, with the traditional locations of Hittite toponyms marked.

with the religious sphere (Forlanini, 2017: 242, with literature).

However, a renewed look at the stratigraphy and finds from Porsuk, corroborated with abundant radiometric absolute dates, induces us to substantially revise these considerations (Beyer 2015). On one hand, dendrochronological determinations from architectonic beams making up the structure of the western fortifications clearly indicate that their earliest construction activities took place no later than the last quarter of the 17th century BCE, almost three centuries earlier than previously supposed. On the other hand, carbon dates from short lived materials (seeds and bones) would set the destruction layer sealing the LBA fortifications and occupation about two centuries earlier than previously thought, that is around the late 15th or by the mid-14th century BCE at the latest (Beyer 2015; Matessi 2016: 132). A re-evaluation of the Porsuk ceramic finds published so far is consistent with this chronological reassessment (Mielke 2006: 87-88; Matessi forthcoming).

Porsuk was the findspot of a fair amount of RLW-m ware (Dupré 1983: 25-26, and Pl. 41, nos. 247–250; Pelon 1992: 341, Fig. 42; Chalié et al. 2012: 195, Fig. 30; Beyer et al. 2013: 221, Fig. 38). The presence of RLW-m testifies an involvement of Porsuk in the Mediterranean network of circulation of this ceramic class (Section 3). Moreover, the revised chronology of LBA Porsuk also allows researchers to identify in the published assemblage possible fragments of the so-called Syro-Cilician ware, a painted ware class widespread in Plain Cilicia and in the Levant between the 18th and 16th centuries BCE, and so far found in Central Anatolia only at Kültepe and Achemhöyük (Matessi forthcoming, referred to Dupré 1983: 25, 53 and Pl. 41, nos. 245–246; on the Syro-Cilician ware in general, Bagh, 2003). Given the position of Porsuk, it is clear that some of these contacts were transmitted from Cilicia through the Cilician Gates and the *Via Tauri*, possibly along trajectories already established during the MBA.

However, the fact that Porsuk was abandoned around the late 15th century BCE and apparently never resettled throughout the Hittite Empire period might attest to some rearrangement in the interregional route system. It might be that the outpost on the northern access to the Cilician Gates was moved to another location, but no such site has yet been detected. On the other hand, the evidence from Porsuk concurs with the lack of clear textual attestations and landscape monuments to suggest that during the Empire period the Cilician Gates fell into disuse, giving up any role they might have previously held in channelling interregional contacts. Given the long term importance of the Cilician Gates, testified by abundant evidence through various epochs, there must be precise historical reasons why this route was bypassed in the late 15th century. I will try to address this question later, after evaluating the LBA dynamics affecting the western corridors through the Taurus.

## 8. Rough Cilicia: The Göksu valley and the “fast track” to Mersin

The GIS analysis presented above returns two possible corridors in Rough Cilicia, to the west of the Cilician Gates (Fig. 3). The westernmost corridor runs along the Göksu River valley, which represents a major topographical discontinuity in the central Taurus. Archaeological surveys and excavations have recorded a very rich archaeological deposit in the Göksu valley, spanning in time from the Chalcolithic onwards (French 1965; Şerifoğlu et al., 2018; Postgate and Thomas 2007; for other references, see Matessi and Tomassini Pieri 2017: 94, fn. 57). In particular, findings attest that the Göksu valley has functioned as a main transit area since at least the 3rd millennium BCE, possibly enhanced by riverine transportation, feasible through small boats for a long stretch of the river down to the coast.

Contrary to the Cilician Gates, the Göksu valley and its branches host two reliefs likely dating to the Hittite empire. To the west, the Ermenek relief would sit on a rock cliff facing the left bank of the eponymous river (Bittel, 1939; Kohlmeyer, 1983: 102-103). Unfortunately, the relief is no longer preserved and it was already worn out when Bittel visited it. It was carved in a niche and, judging from Bittel's photos, it depicted a

standing short-skirted man with stretched arm possibly holding a spear. This composition would recall the more famous Karabel relief that marks the entrance to the Karabel pass on an important road (Ehringhaus 2005, 87–91), an indication that the Ermenek relief also possibly had a similar function.

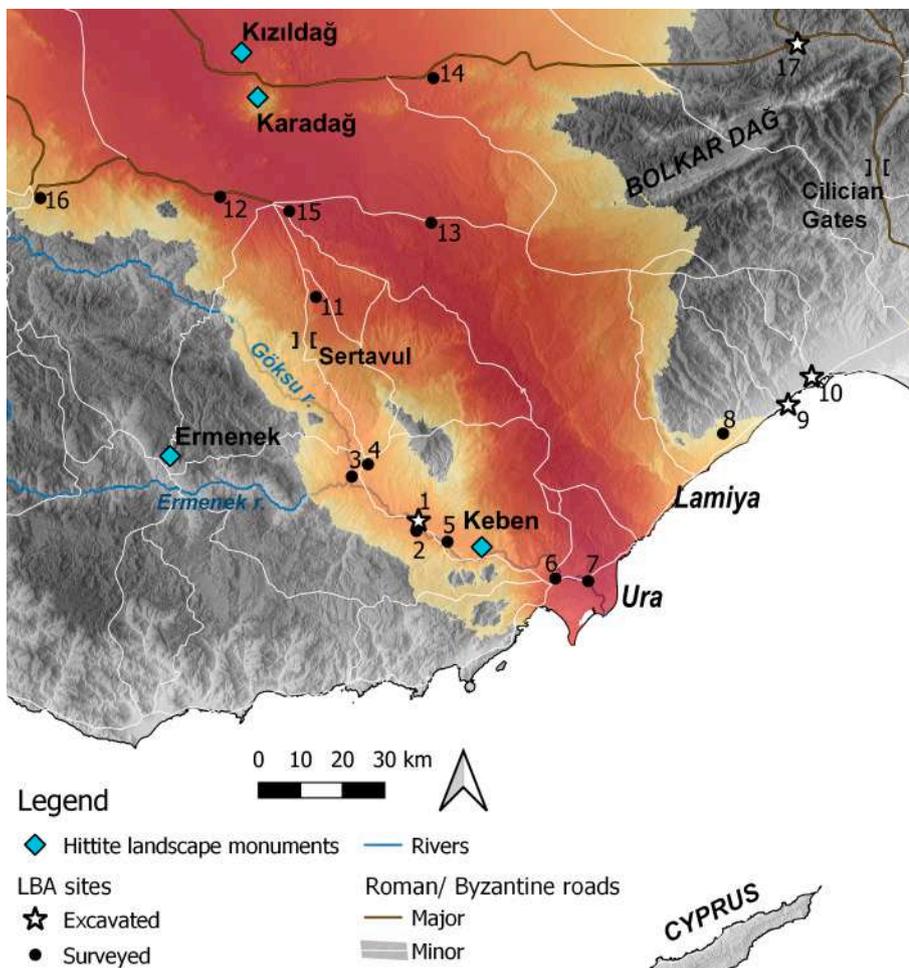
To the east, on a cliff on the left bank of the Göksu ca. 20 km upstream from Silifke, we find the Keben relief, also carved in a niche but depicting a woman shrouded in a long robe (Taşyürek 1976; Kohlmeyer 1983: 102; Ehringhaus 2005: 112-18). The general execution and individual iconographic elements of this relief are reminiscent of late Empire traditions (late 13th century), although a date to the 12th or even 11th centuries BCE cannot be excluded a priori. Interestingly, lining the cliff underneath the relief there is a stone-paved road of Roman or even earlier date (Şerifoğlu et al. 2017: 107-108).

An intense frequentation of the Göksu valley during the LBA is more strongly indicated by a number of settlement sites lining the valley (Fig. 9). Five mounded sites with materials dating to this period (Fig. 9.1-5), including samples of RLW-m, are recorded between the entrance to the lower gorge and the confluence with the Ermenek and a further one at the mouth of the Göksu river (French 1965; Şerifoğlu et al., 2018). Interestingly, at each end of the broad depression featuring the middle alluvium, sites are coupled facing one another on either side of the river as sorts of checkpoints on (riverine?) transit (Fig. 9.1–4). Excavations carried out at one of these sites, Kilise Tepe, are quite revealing as to socio-cultural developments in the area during the LBA.

Kilise Tepe is a 4 ha rounded mound located on the left bank of the middle Göksu River. A British expedition excavated the site between 1998 and 2011 (Postgate and Thomas 2007; Bouthillier et al. 2014), investigating a superimposition of five levels of occupation spanning the 3rd millennium BCE to the Byzantine period. The LBA occupation comprises Level III and the phases a-d of Level II (Level IIa-d). Both levels yielded substantial remains of institutional buildings as well as traces of administrative activities, including seals of Hittite functionaries (Collon et al., 2010: 172-74; Symington 2007). The transition to Level III from the preceding MBA occupation (Level IVa-b) is still ill-defined due to limited exposure of relevant strata. Stratigraphy, however, suggests a hiatus of some duration between the last MBA phase and the first documented Level III occupation (Şerifoğlu 2019: 73). This would also be confirmed by the available absolute dates from primary contexts, consistently providing ranges ending no later than the mid-17th for Level IV and beginning no earlier than the early 15th century BCE for Level III (Kuniholm et al., 2007; Postgate in Bouthillier et al., 2014: 134-37). On combining radiocarbon and dendrochronological data, the foundation of the main phase of Level III (IIIId) should be dated around the mid to late 15th century BCE. If so, the initial chronology of the LBA at Kilise Tepe is quite significant, as it approximately matches the end of the LBA occupation at Porsuk (Matessi 2016: 132-34). I suggest that these developments should be explained in the context of major shifts in patterns of connectivity that led to the promotion of the Göksu valley as a main highway of communication towards the Mediterranean, likely contextual with the dismissal or decay of the Cilician Gates.

Apparently, Level III was brought to an end by a serious fire, possibly around the early/mid-14th century BCE. Yet, Hittite infrastructural investment at Kilise Tepe not only continued afterwards, but was even amplified in Level IIa-d with the construction of two imposing structures, the *Stele Building* and the *East Building*. The end of the LBA occupation, marked by two major fires in phases IIc and IIId, would date to the beginning of the 12th century BCE, concurrent with the demise of the Hittite Empire.

Cultural materials found at Kilise Tepe III-IIa-d widely attest to the interactions transiting through the Göksu valley. The most interesting data in terms of interregional contacts derive from the RLW-m ware. The LBA excavated levels at Kilise Tepe have yielded an astounding quantity and variety of shapes of RLW-m, greater than anywhere else in Anatolia and, possibly, in the whole Eastern Mediterranean (Kozal 2015). A view of the distribution pattern of RLW-m ware brings clear testimony of the



**Fig. 9.** Detail of the Rough Cilician area, with the final portion of the LCC between Karahöyük-Konya (see Fig. 2.15) and Tekirköy (here no. 7). Locations of relevant Hittite toponyms (Ura and Lamiya) are also displayed. Key to sites: 1) Kilise Tepe; 2) Çingantepe; 3) Attepe; 4) Örentepe; 5) Damtepe; 6) Silifke Kalesi; 7) Tekirköy; 8) Tömukkale; 9) Soli-Pompeiopolis; 10) Yumuktepe-Mersin; 11) Kozlubucak; 12) Yollarbaşı; 13) Taşkale; 14) Kaleköy Höyük; 15) Dağ Oteli Havuz Höyük; 16) Sarıoğlan-Belviran; 17) Porsuk.

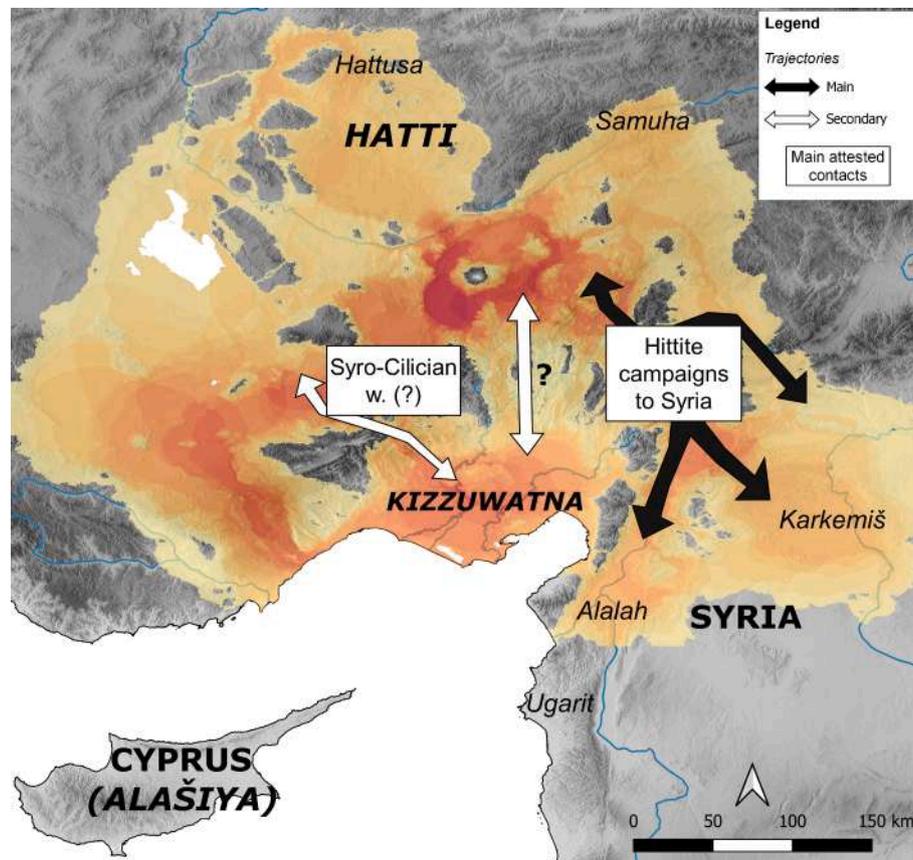
importance of the Göksu valley as a main axis in trans-Tauric trajectories during the LBA. In fact, as shown by Kozal (2003), Kilise Tepe was a main pole of consumption of this ware in Anatolia, comparable only with the Hittite capital Hattusa and other major Hittite centres in North-Central Anatolia (see also Mielke 2007; Mühlenbruch 2011). This distribution pattern starkly contrasts with that of other Mediterranean ceramic imports. In particular, Late Cypriot II wares have a widespread diffusion in Plain Cilicia but are almost absent in the Göksu valley and, most significantly, in Central Anatolia. This would indicate that from around the mid-15th century BCE, that is the peak of diffusion of RLW-m and Late Cypriot II wares, Central Anatolia became commercially more tightly integrated with the Göksu valley than with Plain Cilicia.

Why was the Göksu valley corridor so important? The Hittite expansion of the early 14th century BCE brought the annexation of Ugarit, probably the most important international harbour of the Eastern Mediterranean (Fig. 2.33). Ugarit thus became a loyal client state, remaining under Hittite control until its final destruction at the end of the LBA (Singer 1999). While supplementing invaluable naval support and seafaring expertise to the otherwise-landlocked Hittite infrastructures, the port of Ugarit also likely served as a main intermediate partner in the interactions between Hatti and other socio-political entities operating in the Mediterranean area. However, as late Empire texts show (13th century BCE) communications with Ugarit were in turn mediated through Ura, a sea port located on the Anatolian coast (Lemaire 1993). A group of these texts, found at Ugarit and Hattusa, shows that Ura played a crucial role in times of food shortages, when deliveries of grain supplies were shipped by boat from Ugarit to Ura and thence bound for Hatti overland (Klengel 1974; 2007). Although most attestations of Ura derive from 13th century sources, it is around the late 15th

century BCE that Ura first entered the sphere of Hittite hegemony. During this period, in fact, the reigning Hittite king Arnuwanda I issued an agreement with the Uraean elders, binding them to a formal submission to Hatti (CTH 144; de Martino 1996: 73-79). This evidence bears an interesting chronological match with the possible foundation of Level III at Kilise Tepe, thus confirming the late 15th century BCE as the starting period for the Hittite frequentation of the Göksu valley corridor.

The exact location of Ura is still undetermined, but multiple independent elements suggest that it was situated in Rough Cilicia and most scholars point to the area around Silifke (de Martino 1999, with literature). Mellaart (1958: 327 and Figs. 39–40) collected pottery dating to the 2nd millennium BCE on the large castle hill overlooking Silifke (Fig. 9.6). Another candidate might be an unexcavated site near Tekirköy/ Esenbel, ca. 7 km east of Silifke (Fig. 2.21 and 9.7), which yielded a substantial LBA surface collection, including some RLW-m (French 1965: 184-85). This site, however, seems too small to host an important harbour (French 1965: 181, reporting measurements of “120 × 5 m”).

Behind Ura, the Göksu valley served as a vital gateway between the Hittite heartland of Central Anatolia and the Eastern Mediterranean. Most textual sources relating to Ura come from Ugarit, and thus telescope trading activities in this direction, but it is entirely possible that Ura also interacted with other partners. One of the most important was Cyprus which, called Alāsiya in 2nd millennium texts, entertained regular diplomatic and commercial relations with Hatti and the other great powers of the LBA (de Martino 2008). Notwithstanding the near lack of Late Cypriot II imports in the Göksu valley, good indications of close contacts between this area and Cyprus are obtained from the RLW-m ware. This is self-evident if we assume a Cypriot origin of this ware



**Fig. 10.** Trajectories of transit and contacts across the Taurus during the Old Hittite Kingdom (17th – late 15th BCE). Drawn on basemaps showing, in shaded reds, the cumulative LCCs (for which see Fig. 3).

(Section 3), but even operating within the hypothesis of a South Anatolian derivation the picture would still hold, although in a reversed perspective. Cypriot communities of the LBA, in fact, appear to be among the largest consumers of RLW-m with a rich repertoire of shapes having its closest match precisely in Kilise Tepe (Kozal 2015; 2016).

The northern entrance to the Göksu valley is provided by the Sertavul Pass (Fig. 9). Significantly, on the northern slope of this pass we find the site of Kozlubucak (Fig. 9.11), whose surface collections have yielded abundant LBA material, including a good sample of RLW-m ware (French 1965: 184-85, under “orange burnished ware”; Kozal 2003: 74, Fig. 1). Another possible access located more to the west, on the upper course of the river (Newhard et al. 2008), did not yield traces of MBA/LBA frequentation.

As we have seen, the GIS analysis indicates another corridor across Rough Cilicia, generally identified with Xenophon’s “fast track” (Section 4). This passage lies in an area that has so far received very little attention by archaeologists. Nonetheless, possible traces of a LBA occupation are reported in at least two sites located at or close to the northern access (Taşkale: Bahar 2008: 241; and Kaleköy Höyük: Şerifoğlu and Küçükbezi 2019: 198; see here Fig. 9.13–14). Close to the coastal end of the “fast track”, ca. 10 km east of Erdemli town centre, the site of Tömukkale (Fig. 9.8) has yielded a more substantial LBA surface collection, also including a fragment of a RLW-m pilgrim flask (French 1965: 184-85, 196 Fig. 12.6; Kozal 2003: 74, Fig. 1).

Hittite textual evidence may support the location of a Hittite road along the “fast track”. In fact, following a persuasive proposal by Forlanini (2013: 15-16; see also Rutishauser 2020: 155-56), the “fast track” corridor may at least in part correspond to a road system on the mountains backing the town of Lamiya (Cl. *Lamos*, modern Lemonlu), used to mark the boundary between Hatti and Kizzuwatna in the “Sunaššura treaty” (CTH 41.I.2; mid-late 15th century BCE; see Wilhelm

2014. For different geographical reconstructions: (Novák and Rutishauser, 2012; Hawkins and Weeden 2017: 282, with further literature).

The claim by Hawkins and Weeden (2017: 282) that no “ancient or modern” road has ever led south across the portion of the Taurus between the Cilician Gates and the Göksu valley is not well informed. In fact, it does not take into account the likely location of Xenophon’s “fast track” and a cluster of Roman and Byzantine roads between *Kalanthia* (Erdemli) and *Tetrapyrgia*, possibly at Toros/ Yelkalesi (Hild and Heltenkemper 1990: 140). More to the east, the *Tabula Peutingeriana* marks another road connecting *Tetrapyrgia* with *Soloi-Pompeiopolis* (Mersin).

## 9. Historical interpretation

From the above discussion we obtain a much richer picture of the route landscape across the Taurus than was so far supposed, emphasizing the existence of multiple interconnected corridors, some of which have been generally overlooked in previous scholarship. Such corridors, however, did not have an equal impact on the set of long-distance relations entertained at any time by the Hittite kingdom and empire. In particular, based on our evidence, we can identify a dynamic development with a number of shifts in route hierarchies (Figs. 10-13). To the east, along the Maraş-Elbistan corridor, LBA traffic generally followed trajectories well rooted in previous connectivity habits, already comprising the Old Assyrian trade and possibly even earlier networks. Episodic shifts might well have occurred, and likely did as I shall suggest in a moment. However, they did not have permanent effects and throughout most of the Hittite period the Maraş-Elbistan corridor remained the primary axis in overland connections between Hatti and its Syrian partners.

More impactful changes, however, seem to have affected connectivity patterns towards Cilicia. Based on their role in the Roman and

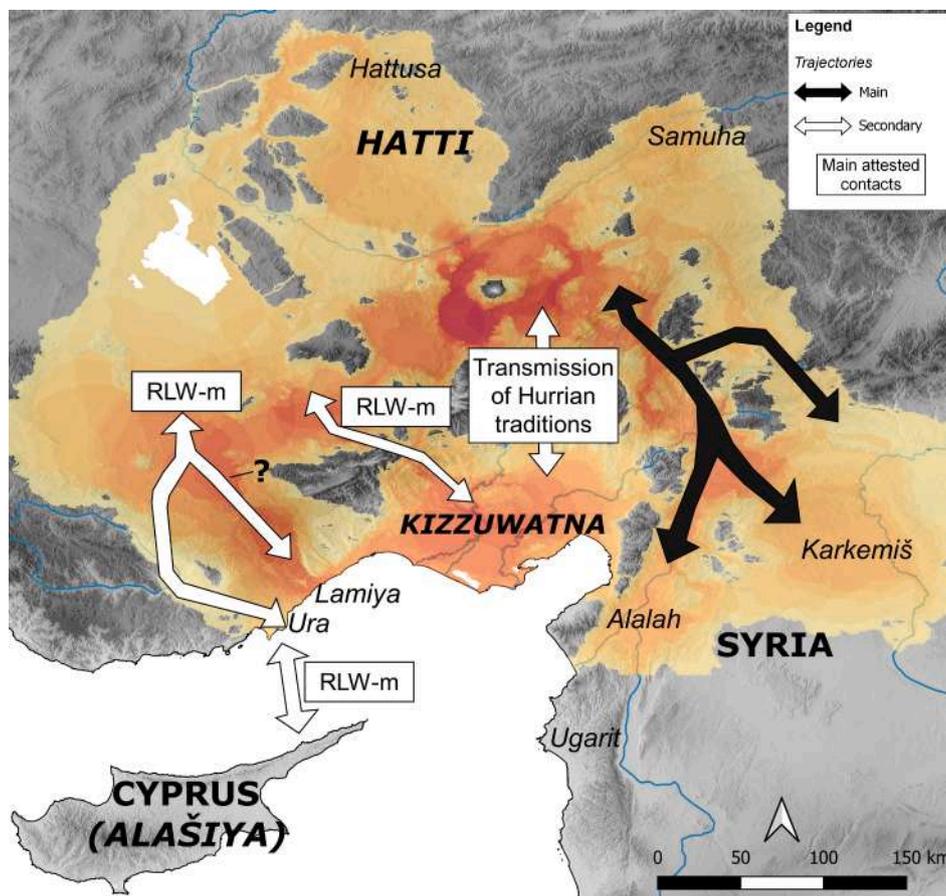


Fig. 11. Trajectories of transit and contacts across the Taurus in the late 15th century BCE. Drawn on basemaps showing, in shaded reds, the cumulative LCCs (for which see Fig. 3).

Byzantine road networks, the Cilician Gates are commonly held as the most important route towards Cilicia and the Levant. However, as I argue, this was not always the case during the Hittite period. The Cilician Gates may have channelled some traffic during a first phase of Hittite history, perhaps, also in this case, nesting upon connectivity patterns inherited from the MBA (Figs. 10-11). However, their frequentation likely declined after the end of the 15th century BCE, i.e. during the Hittite Empire period (Figs. 12-13). This would explain the lack of explicit textual references or reliable hints at an itinerary through the Cilician Gates and the absence of 13th century Hittite landscape monuments along this trajectory. A declining use of the Cilician Gates during the Empire period is especially suggested by the archaeological evidence. In fact, the site of Porsuk, controlling the northern access to this passage, suffered major destruction and was then abandoned around the late 15th century.

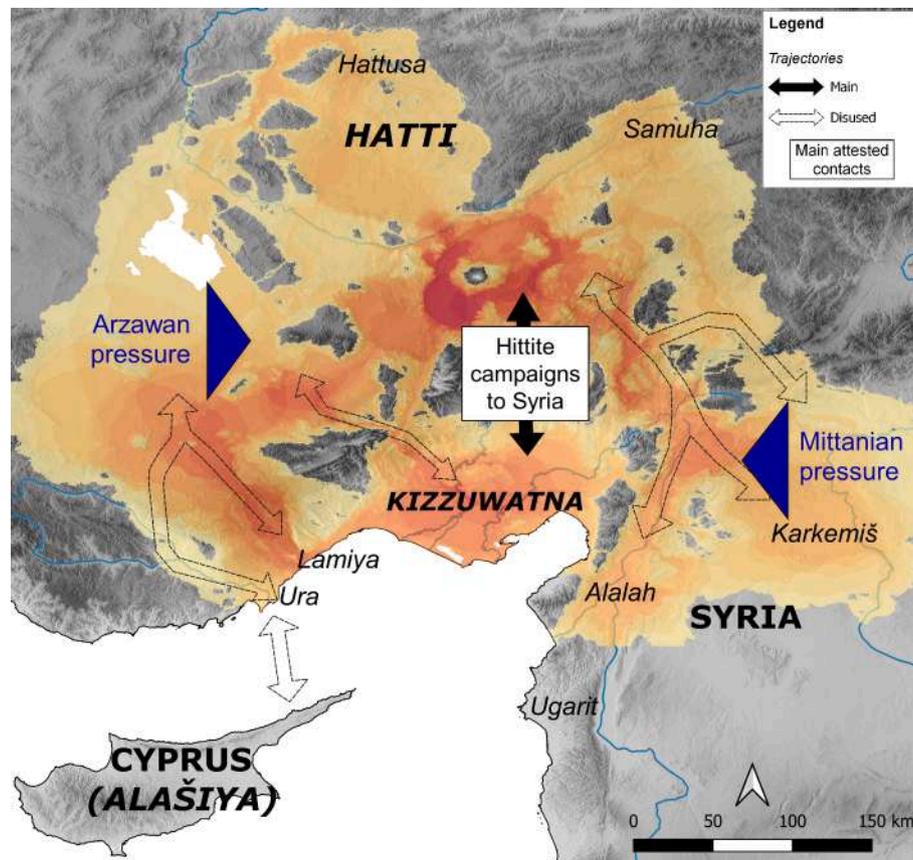
Roughly at the same time as Porsuk was destroyed and abandoned, a Hittite settlement was founded, destroyed and then re-founded again more to the west, at Kilise Tepe, along the Göksu valley corridor. The growing importance of the Göksu valley around the late 15th century is also signalled by the first attested diplomatic relations between Hatti and the port of Ura, represented by Arnuwanda I's treaty with the Uraean elders (CTH 144). Ura, likely located at the mouth of the Göksu river, would later become the main Anatolian hub in Hittite trading interactions with the Levant and, very likely, with Cyprus. The quasi-synchronous abandonment of the route to the Cilician Gates and incipient frequentation of the Göksu valley would suggest a shift in connectivity, by which the Göksu valley took over a primary role as a Hittite gateway to Eastern Mediterranean trading networks (Fig. 13). Again at about the same time, traffic also intensified on the Antitaurus routes, which began to work as a direct link between Plain Cilicia (Kizzuwatna)

and North-Central Anatolia, especially Samuha (Figs. 11-13).

The cluster of these shifting trajectories between the late 15th and early 14th centuries is particularly meaningful and requires a closer historical evaluation. This period represents a major turning point in Hittite history, marked by radical reforms in the religious and administrative organisation of the Hittite kingdom (Bryce 2005: 121-153; Matessi 2016). It is also a period of expanding horizons, with the first structured attempts to establish a network of hegemonic control beyond the Hittite core region through subordination treaties. Above-mentioned Arnuwanda I's treaty with Ura, and Tuthaliya I's treaty with Šunaššura of Kizzuwatna (CTH 41) are two of such attempts. Arguably, these allegiances opened new avenues to contacts with the Mediterranean area, granting safer access to new routes.

However, Hittite sources also picture the 15th to 14th century transition as a turbulent period, characterised by military conflicts between Hatti and its external enemies. These conflicts reached an apex with the so-called "concentric invasions", depicted as a moment in which enemies managed to penetrate deeply into Hittite territory. During the "concentric invasions" the Hittite court resided in Samuha, possibly in response to the temporary seizure of Hattusa on the part of enemies' forces. Contextually, the northern piedmont of the Taurus fell under the control of Arzawans, while the east and southeast were under pressure from Mittanian expansive policies. It was not until around the mid-14th century that Suppiluliuma I regained Anatolia to Hittite control, before engaging into a new imperialistic expansion towards the south and east.

In this framework, we can eventually better understand changes in route patterns. I propose that the Arzawan occupation of the northern Taurus piedmont directly or indirectly caused the destructions of Porsuk and Kilise Tepe, Level III. The consequent insecurity in the region



**Fig. 12.** Trajectories of transit and contacts across the Taurus at the transition between the 15th and the 14th century BCE. Drawn on basemaps showing, in shaded reds, the cumulative LCCs (for which see Fig. 3).

blocked access to both the Göksu valley and the Cilician Gates. Similar instability probably also affected the Maraş-Elbistan corridor, much too exposed to Mittanian pressure. Combined with the temporary transfer of the Hittite headquarters at Samuha, this was likely a key factor in promoting the Antitaurus route system as the safest means to reach Syria from North-Central Anatolia (Fig. 12).

Once Central Anatolia was restored back to Hittite control around the mid-14th century, a new connectivity system emerged (Fig. 13). The Maraş-Elbistan corridor was restored, now channelling connections with the newly established appanage kingdom of Karkemiš. However, Porsuk was never resettled again during the LBA, suggesting that the Cilician Gates were definitively dismissed as a highway of interregional contacts. On the contrary, Hittite presence in the Göksu valley was restored (Kilise Tepe IIA-d). This corridor could thus continue to grant the inflow and outflow of commodities, including food supplies, to and from the Levant and Cyprus. Also the Antitaurus routes acquired prominence, especially on the cultural and symbolic sphere, communicated through commemorative monuments.

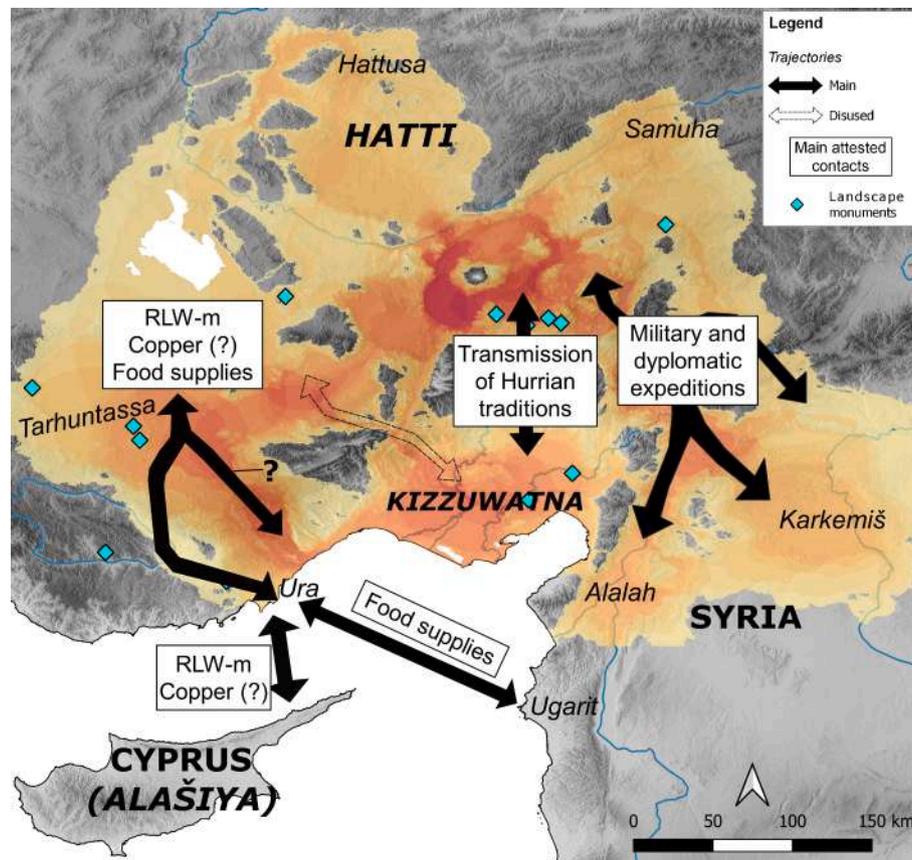
These shifts can be seen in the light of more structural transformations involving multiple spheres of interaction. On a cultural and ideological level, intensified traffic along the Antitaurus defined a major trajectory in the widespread diffusion of Hurrian and Kizzuwatnean cults in Anatolia, likely through the mediation of Samuha. The commercial focus, instead, shifted towards the Göksu valley possibly in search of direct metal trading connections with Cyprus. The boom in copper production and circulation reached in Cyprus by the 14th century is perhaps connected with this scenario (Kassanidou 2013). In a broader perspective, direct or indirect control over Ugarit and Ura, empowered by land-to-coast connections, provided the Hittite empire with the necessary infrastructures to become an active player in Mediterranean exchange networks. In the early 13th century the Hittite

capital was transferred southward, from Hattusa to Tarhuntassa in the Konya plain. While several concurrent causes can be certainly sought behind this major move, a pull factor could have lain in the new centrality acquired by the Konya plain as the only feasible access to the Göksu valley and, thence, the Mediterranean coast at Ura (Matessi 2016, with literature).

## 10. Concluding remarks and further perspectives

With this work I have made a case for an integrated historico-archaeological approach to route landscapes, arguing for its potential to offer a more fine grained understanding of dynamics of socio-cultural change. The results of this study warn us from representing connectivity as a set of fixed patterns. As the example of the Cilician Gates shows, axiomatic assumptions about route hierarchies, derived from the anachronistic transposition of known route networks disregarding contextual analyses, risks to mask eventful shifts in connectivity with broader historical implications. In the intent to overcome this problem, I have proposed an enhanced perspective on the formation and transformation of Hittite social, political and cultural landscapes.

Webs of Mediterranean interactions similar to those here analysed continued to play a crucial role after the demise of the Hittite empire, but in a changed scenario. Cilicia, Syria, and Cappadocia featured in the constellation of so-called Neo-Hittite polities, sharing with each other the inheritance of several Hittite cultural traits, including the use of Anatolian Hieroglyphic to express the Luwian language (Bryce 2012). Cilicia also became a pole in a tripartite cultural *koiné*, comprising Cyprus and the Levantine coast. At the same time, however, the Taurus represented a more imposing barrier, allowing little penetration of Mediterranean cultural elements to the north towards Central Anatolia. These are just a few possible clues that can be offered for future research,



**Fig. 13.** Trajectories of transit and contacts across the Taurus during the Hittite Empire period (14th-13th BCE). Drawn on basemaps showing, in shaded reds, the cumulative LCCs (for which see Fig. 3) and the distribution of Hittite landscape monuments in the area.

but they also serve to show the potential of a dynamic approach to route landscapes for unravelling palimpsests of socio-cultural interaction in early complex polities and empires.

#### Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

#### Acknowledgements

Preliminary research for this paper was carried out in Istanbul, during the Fall semester 2019-2020, while I was sponsored by a fellowship granted by the Research Center for Anatolian Civilizations-ANAMED, Koç University. The article was then accomplished as part of the project PALaC, which has received funding from the European Research Council (ERC) under the European Union's Horizon 2020 Research and Innovation Programme (Grant Agreement n° 757299).

I am grateful to the ANAMED director, Chris Roosevelt, and to Çiğdem Maner for their consultancy and support during my period in Istanbul. Several inputs in this paper also derive from conversations I had with the PALaC Principal Investigator, Federico Giusfredi, who read and commented upon drafts of this paper. I also owe a special debt of gratitude to Lorenzo d'Alfonso, Michele Massa, Tefik Emre Şerifoğlu, and Andrea Trameri for their consultancy and invaluable comments throughout various stages of my research. Not everyone of them necessarily shares all the views presented here.

Some preliminary results of this research have been presented in various venues, including the conference "The Archaeologies of Roads" (Florence, November 7-8 2019) and a lecture at Boğazici University

(Istanbul). I am grateful to the organisers of these events, especially Tuna Kalaycı, Marina Pucci, Scott Branting, Nicola Masini, Aslı Özyar, and Elif Ünlü, as well as the other participants for their feedback and intriguing questions. The anonymous reviewers contributed with valuable comments and critiques to sharpen the focus of this paper. Of course, any mistakes are my own.

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