URARTIAN LANDSCAPE THEORY

Reconstructing the Dynamic Relationship Between Lake Van, Environments, and the Urartian State

ÖMER TANYÜREK

With Cartographic Contributions by

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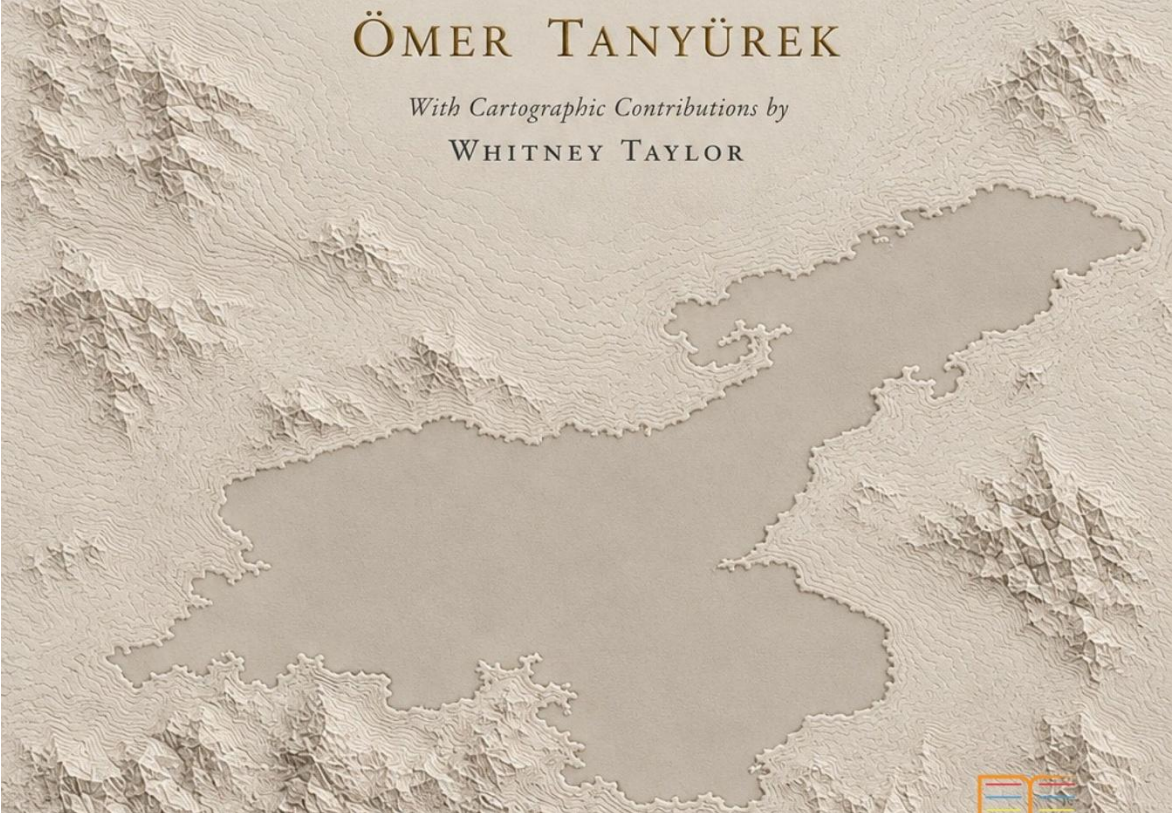

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INTRODUCTION

The Problem of the Urartian Landscape

The Kingdom of Urartu is usually encountered through things that appear fixed: a fortress on a rocky height, a royal inscription cut into stone, a canal following a contour, a storeroom lined with pithoi, or a temple occupying the most prominent sector of a citadel. Their survival has encouraged a static interpretation. Urartu has often been reconstructed as a political order imposed upon an equally stable physical setting. Mountains supplied defensive positions, plains supplied grain, roads connected royal foundations, and Lake Van marked the centre of the kingdom. In this account landscape is indispensable, but it remains largely passive. It explains where events occurred without becoming part of the historical explanation.

The Urartian landscape was a changing field of action. Shorelines moved, plains and deltas developed, routes varied in cost and accessibility, and prominent places acquired meanings beyond elevation or defence. The kingdom selected among these possibilities. Fortification, irrigation, storage, labour, movement,

inscription and ritual turned parts of a variable environment into political space, although that process remained incomplete and its traces survived unevenly.

Urartian political geography emerged through selective institutional investment. Natural forms mattered, but their political effects depended on organised labour and sustained use. Fertile land became a state resource through water management, storage and redistribution; a defensible rock became a centre through construction, supply, administration and ceremony. Protected routes and ritually marked places acquired similar force through repeated practice. Investment made the landscape political.

This argument draws on landscape archaeology's treatment of space as a record of relations and practices. Butzer connected archaeological explanation with human ecology while resisting simple environmental causation; later landscape studies placed memory, perception, movement and political meaning beside subsistence and adaptation (Butzer 1982; Ashmore and Knapp 1999). Wilkinson's regional work in the Near East showed how settlement, fields, routes and water systems can be analysed across the spaces between excavated sites (Wilkinson 2003). Urartian archaeology supplies an unusually strong test because monumental building, hydraulic intervention and royal writing can be examined against a varied highland environment and an uneven settlement record (Çilingiroğlu 1997; Zimansky 1985).

Modern investigators do not encounter the same landscape in which Urartian decisions were made. Lake-level change, sedimentation, erosion, earthquakes, later occupation and construction have altered both the terrain and the visibility of its remains. Known concentrations may reflect past centrality, favourable preservation or intensive research. Empty areas may indicate non-occupation, but they may also result from submergence,

burial, destruction or limited investigation. The Lake Intelligence Framework addresses this problem by relating basin form, hydrological thresholds, settlement, resources and cultural meaning within a changing lacustrine system (Tanyürek 2026).

Urartian Landscape Theory addresses two linked questions: how institutions turned environmental possibilities into political space, and how later processes produced the incomplete archaeological distribution visible today. Historical action and archaeological visibility must be studied together.

Scope Terms and Research Questions

The book begins in the Lake Van Basin but extends beyond its watershed. The basin contained the dynastic and monumental core, including Tušpa and several major royal foundations, while Urartian authority reached eastern Anatolia, northwestern Iran, the Araxes valley and the South Caucasus. Southern routes linked the core with the upper Tigris and Great Zab valleys and the contested highlands between Urartu and Assyria. These regions formed zones of direct investment, recurrent intervention, negotiated frontiers and shifting political alignment. Here, the Urartian world denotes this wider field of institutions, material forms and political claims; it does not imply continuous rule within a modern border.

The chronological focus falls between the consolidation of the kingdom in the ninth century BCE and the end of its political system in the seventh or early sixth century BCE. Longer sequences are introduced when they alter the interpretation of that interval. The geological history of Lake Van explains the form and instability of the basin. Pleistocene and Holocene records identify the processes by which shorelines and ecological zones changed. Pre-Urartian settlement provides the background against which royal foundations selected, intensified or redirected older patterns of occupation. Later activity matters where rebuilding, agriculture, quarrying, erosion or

urban expansion affected the survival of Urartian evidence. This extended chronology serves the Iron Age argument; it is not an attempt to write a complete environmental or cultural history of eastern Anatolia.

Several terms require the same discipline. *Landscape* refers here to a historically produced set of spatial relationships. It includes terrain and water, but also the practices that connected settlements, fields, pastures, routes, monuments and sacred places. *Environment* denotes the physical and ecological conditions within which those practices occurred. *Political space* describes locations and connections made consequential through authority, labour, appropriation, protection, ritual or representation. These distinctions prevent every environmental feature from being treated as a landscape decision and every Urartian object from being treated as evidence of effective territorial control.

The word *state* is retained because Urartu possessed kingship, monumental centres, writing, organised extraction, military power and large-scale construction. It is not used to imply even administration across all claimed lands. Zimansky's ecological analysis demonstrated the importance of regional resources, storage and the structure of royal power, while later work has shown how much variation lies behind any single model of the kingdom (Zimansky 1985; Çifçi 2014). The spatial reach of Urartu must consequently be reconstructed from the distribution and intensity of practice. A royal inscription, a standardised fortress, a provincial tomb and a ceramic resemblance may all relate to Urartian power, but they document different kinds of relationship.

The investigation is organised around six questions. How did the changing form of the Lake Van Basin affect the land and routes available during the first millennium BCE? Which parts of the present settlement distribution result from ancient choice, and which

may result from preservation or research? How were production, storage, water management and movement joined to royal centres? What differentiated a capital, a royal foundation, a provincial fortress and a local stronghold within their respective landscapes? How did temples, inscriptions, tombs and sacred mountains give spatial form to authority? Finally, can the resulting model identify places where future terrestrial, geophysical or underwater investigation has a reasonable prospect of changing the argument?

These questions require more than spatial correlation. Fertile land does not explain why a fortress was founded in a particular reign; a broad view does not prove surveillance; proximity to a modelled shore does not establish a harbour. Historical explanation requires compatible chronology, material investment and a plausible mechanism. This standard limits the false precision that maps can create.

Political Geography Beyond Borders

Modern political maps encourage another kind of projection. Their bounded territories imply that authority changes at a line and remains broadly consistent on either side of it. The sources for Urartu describe a less regular geography. Royal inscriptions name conquered lands, foundations and acts of construction, while Assyrian accounts organise highland space around campaigns, submission, tribute and hostile terrain. Neither corpus supplies a cadastral map. A place could acknowledge a king, provide goods, host a garrison, adopt a royal architectural form or stand within a military route without sharing the same administrative relation as a royal city near Lake Van.

This book approaches territoriality as a distribution of practices. Direct royal investment is visible where construction, inscriptions, cult institutions, storage and hydraulic works converge. Military access may be visible along passes and at defended

crossings without comparable evidence for civil administration. Tributary and allied polities can participate in a political system while retaining their own rulers. Frontier communities may use Urartian forms to negotiate status locally. These relations changed with reign, conflict and the capacity to maintain movement. A map of political space should show variation in intensity and type rather than a single enclosing boundary.

Smith's account of political landscapes is useful here because it treats authority as spatially constituted through relations among centres, subjects, monuments and practices rather than as a quality evenly spread across territory (Smith 2003). The present study adapts that insight to a kingdom whose core was organised around an endorheic lake and whose reach crossed mountain systems. The adaptation requires attention to ecological production and transport costs, but it also requires attention to the places where royal order was seen, enacted and remembered.

The distinction between core and frontier is analytical, not absolute. Tušpa was the dynastic centre, yet the political core included several landscapes with different functions and histories. Ayanis and Kef were major foundations of Rusa II, separated from the capital by water, plains and routes that had to be maintained. The northern and western shores contained centres whose relations to lake transport and productive land differed from those of the Van Plain. Even close to the capital, institutional presence was concentrated rather than continuous.

The southeastern highlands make the problem more visible. Kunin Fortress, the Çetintaş rock-cut tomb, Bay Fortress and the proposed Deraw location of Mušašir occupy a field of narrow valleys, passes and competing historical geographies. Architectural resemblance can mark technical transmission, political affiliation, elite emulation or some combination of them. Their interpretation

depends on the association between monuments, routes, settlement evidence and chronology. Grouping them within a frontier landscape allows the alternatives to be compared; treating each as isolated proof of a border would decide the question before the analysis began.

This relational approach also changes the meaning of distance. Kilometres measured in plan do not express the time, labour or political risk of movement through a mountain corridor. A nearby place separated by a difficult pass may have been less accessible than a more distant centre connected by a plain, valley or lake crossing. Seasonal snow, river discharge, pack animals, cargo and security altered that equation. Political proximity must therefore be reconstructed from feasible and maintained connections, not read directly from geometric distance.

This approach still permits precise investigation. Royal works, writing, storage, standardised material and fortified corridors reveal the intensity and type of political relations. The useful question is therefore not only whether a site lay inside Urartu, but how and when it was connected to Urartian institutions, and how that connection differed from local participation in a wider highland culture.

Lake Van as a Historical Environment

The Lake Van Basin is an unusually demanding setting in which to develop such a framework. It lies between Anatolia, northern Mesopotamia, the Iranian Plateau and the South Caucasus, yet it cannot be understood simply as the meeting point of four larger regions. The basin has its own internal structure. Mountain massifs, volcanic terrains, river valleys, alluvial plains and the lake divide short straight-line distances into routes of very different difficulty. Movement around the basin is channelled through a limited number of corridors, while connections beyond it depend upon passes whose

accessibility changes with season, weather, load and political security.

Lake Van itself further complicates this geography. A large body of water can act as barrier, route, resource and visual centre at the same time. These functions are not constant. They depend on water level, shoreline form, landing conditions, technology, weather and the location of settlements relative to both terrestrial and aquatic corridors. The same shore may facilitate short-distance transport in one sector and obstruct it in another. A settlement close to the modern waterline was not necessarily a lakeside settlement in the first millennium BCE; a location that now appears detached from the lake may once have been related to a bay, wetland or navigable approach that no longer exists.

Research associated with PALEOVAN has demonstrated the exceptional depth of the basin's environmental archive. Seismic survey, drilling, sedimentology, pollen analysis and chronostratigraphy have established a record extending far beyond the period of human occupation discussed in this book (Litt et al. 2009; Stockhecke et al. 2014a; Stockhecke et al. 2014b). Its value for archaeology does not lie in the age of the record alone. It demonstrates that the apparent permanence of the lake is deceptive. The basin has passed through repeated hydrological, climatic, volcanic and tectonic changes. These processes operated at different speeds and did not leave equally precise chronological signals.

Terrace studies and tectono-stratigraphic research likewise document major fluctuations in lake level and the combined importance of climate, volcanism and tectonics in shaping the basin (Görür et al. 2015). Yet a long environmental sequence cannot be transferred directly into an archaeological map. A shoreline reconstructed for the Late Pleistocene does not describe the shore used in the Iron Age. A lake-level tendency derived from sediment

cores cannot automatically locate a harbour. Even where an elevation can be modelled, its date, duration, seasonal variability and local geomorphological expression must be established before it is assigned cultural meaning.

For that reason this book treats palaeoshoreline reconstruction as a chronological problem rather than a cartographic effect. The modelled contours at 30, 60 or 100 metres below the modern level are useful experiments. They reveal which parts of the basin are topographically sensitive to regression and where large tracts of land might emerge. They do not, without independent dating, represent three known archaeological landscapes. The maps label these contours as scenarios unless a specific age and evidential basis can be assigned to them. The distinction separates exploration from reconstruction.

The dynamic history of the basin also cautions against environmental determinism. Change in water level altered the field of available action, but it did not prescribe a single response. Communities could relocate, intensify production elsewhere, modify routes, abandon installations, or maintain existing practices at greater cost. Institutions possessed unequal capacities to absorb change. A royal administration able to mobilise labour and store surplus faced a different range of choices from that available to a small settlement. Environmental conditions shaped possibilities; social organisation determined which possibilities became historical realities.

The Modern Shoreline Fallacy

The most immediate archaeological problem created by this environmental history is the projection of the modern shoreline into the past. Modern maps exert a quiet authority. They provide the base on which sites are plotted, distances measured and routes drawn. Once a point is placed against the present outline of Lake Van, its

relationship to water seems self-evident. Sites near the shore appear maritime; sites inland appear terrestrial. Lines following the coast look plausible, while connections crossing the lake require additional argument.

This visual logic can produce what is termed here the modern shoreline fallacy: the assumption that the present edge of the lake provides an adequate spatial frame for interpreting earlier settlement, movement and resource use. The problem is not that modern topography is irrelevant. It is the necessary starting point for most analysis. The error occurs when that starting point is allowed to function as an undated reconstruction.

The consequences extend beyond the position of the water. Shoreline displacement changes the length and shape of routes, the location of crossings, the extent of cultivable or wet ground and the accessibility of landing places. Regression does not simply move the water farther from every site by the same amount. Local bathymetry produces different results. A steep coast may shift little in plan, while a shallow gulf may retreat over a large distance. Former bays may become plains or wetlands. Islands may become promontories. Narrow passages may disappear, and broad exposed surfaces may alter the relative advantage of land and water travel.

Nor should all exposed lake floor be represented as dry, stable and immediately usable land. Newly exposed surfaces may remain saline, marshy or poorly drained. Deltaic channels can migrate. The archaeological potential of a modelled lowstand surface therefore depends on sediment, slope, hydrology and duration as well as elevation. A lower contour defines a possible limit of water; it does not by itself define a habitable landscape.

This approach changes the meaning of submerged archaeology. The possibility that archaeological evidence lies beneath Lake Van does not license the invention of vanished cities,

ports or roads. It creates a testable research problem. Areas of elevated potential can be identified by combining dated shoreline models with topography, known settlement distributions, route geometry, freshwater access and geophysical or underwater survey. Prediction must remain separate from discovery. The model is successful not when it produces an attractive map, but when it identifies places where independent investigation can confirm or reject its expectations.

From Sites to Relationships

Urartian archaeology possesses an impressive corpus of excavated architecture, inscriptions, artefacts and regional survey. Nevertheless, its principal units of description have often been individual monuments and sites. This emphasis is understandable. Citadels such as Tušpa, Ayanis, Çavuştepe, Kef and Bastam preserve architecture of exceptional scale and quality. Royal inscriptions identify rulers, construction projects, campaigns and divine dedications. Storerooms, temples, palaces and fortifications make the institutional presence of the kingdom materially visible.

Yet the prominence of these centres can obscure the relations that sustained them. A fortress was not self-sufficient because its walls were strong. Its construction required quarrying, transport, skilled work and food for labour. Its occupation required water and recurrent supply. Its storerooms presupposed collection and movement from a productive hinterland. Its ceremonial spaces drew participants into regulated encounters. Its political effectiveness depended on relations with smaller settlements, routes, fields, pasture, springs and neighbouring centres. The archaeological meaning of a fortress therefore lies partly beyond its enclosure.

The socio-economic evidence assembled by Çifçi shows why the kingdom must be approached through these wider relations. Agricultural production, animal husbandry, storage, labour

organisation, commodity movement and administration did not form independent sectors; together they enabled royal foundations to function (Çifçi 2014). Large storage installations are especially important. They materialise the conversion of dispersed production into concentrated institutional capacity. A pithos is a container, but rows of inscribed pithoi within a planned storeroom reveal a system of measurement, accountability and controlled accumulation. This is landscape evidence because the stored product came from elsewhere and because its concentration altered the power of the centre over that elsewhere.

Roads and routes pose a comparable problem. The 2017 survey of Urartian routes in the Tuşba and Muradiye districts documents how valleys, passes, small fortifications, observation points and major centres can be read together (Gökçe, Genç and Kaçmaz Levent 2019). The report is particularly valuable because it distinguishes a route as a sequence of topographic and archaeological observations rather than as a line drawn between famous sites. At the same time, exact road alignments and the functions attributed to small installations remain interpretations. A valley may strongly constrain movement without preserving a constructed road. A small fortress may watch a route without operating as a formal relay station. The book retains these distinctions.

The same caution applies to aquatic networks. The proposed relationship between Tušpa, Ayanis, Kef, Adilcevaz, Tatvan and other lakeside locations is geographically plausible and has received serious scholarly attention (Çavuşoğlu, Sürün and Özgüner 2019). Natural coves and short crossings may have made water transport efficient for particular loads or seasons. But plausibility is not proof of a centrally organised port system. Harbour masonry, landing surfaces, associated installations, dated material and a shoreline

appropriate to the period carry different evidential weight from a sheltered modern cove. The book grades these claims and specifies the evidence each requires.

Political Space and Selective Investment

The concept of selective investment provides a bridge between environmental opportunity and state formation. Urartu did not transform the entire territory it claimed in the same way. Royal effort was concentrated at particular places and along particular relationships. Monumental construction, canals, inscriptions, storage facilities and temples mark areas where resources and authority were deliberately assembled. Their distribution reveals priorities, but only if chronology and function are controlled.

This perspective avoids two unsatisfactory extremes. The first treats every fortress as an equivalent element in a comprehensive administrative grid. Such a model gives the state a degree of uniformity that the evidence rarely supports. Sites differed in date, scale, duration, architectural programme and relation to local occupation. The second extreme reduces political geography to opportunistic use of defensible hills. Defence mattered, but many prominent Urartian centres required investments that cannot be explained as reactions to topography alone. Palaces, temples, storerooms, water systems and inscriptions turned selected heights into institutions.

Kef Fortress illustrates the analytical value of this approach. Its elevated location commands broad views and relates to routes descending toward Lake Van, but its importance does not derive from visibility alone. The first campaigns revealed storage rooms with large numbers of pithoi, monumental halls, decorated stone blocks, wall painting and evidence of a major destruction episode (Bilgiç and Öğün 1967). Renewed excavation and ground-penetrating radar have expanded the picture of a planned royal

complex whose unexcavated extent remains substantial (Coşkun and Tanyürek 2024). The site joined visual prominence, accumulation, ceremony and administrative architecture. It was not simply placed in the landscape; it reorganised relations around itself.

Ayanis offers a different combination. Its setting on the eastern side of Lake Van gives it a direct visual relationship with the lake and surrounding mountains, while its temple, inscriptions, fortifications and rich material assemblage identify it as a major royal foundation. Archaeoseismic observations add another dimension: monumental investment occurred in a region where destructive events were possible and where building practice had to negotiate structural risk (Batmaz 2018). Earthquake should not be invoked as a universal explanation for destruction, but neither should natural hazard be excluded from the political history of architecture.

Tušpa, by contrast, cannot be understood through the citadel rock alone. The capital drew significance from the Van Plain, lower settlement, water systems, funerary landscape, routes and its capacity to connect different sectors of the basin. Its concentration of royal inscriptions gave material form to memory and authority (Çilingiroğlu 1997). The capital was a node where ecological capacity and institutional demand met, and where the kingdom's claims were repeatedly written into a conspicuous natural feature.

These cases do not form a single type. That is precisely their value. Urartian Landscape Theory does not seek a formula in which elevation, distance to water and visibility automatically predict political rank. It asks which combinations of investment occurred at which places, how those combinations changed, and what relations they enabled. Settlement hierarchy must be reconstructed from converging evidence: architecture, storage, cult, writing, hydraulic works, access, chronology and network position.

Sacred Geography and the Frontier

Political landscapes are not produced by infrastructure alone. Urartian inscriptions and temples present rule as a divinely sanctioned order. Mountains, rocks, springs, routes and prominent architectural settings could therefore participate in political communication as well as practical organisation. Sacred geography was not an ornamental layer added to an economic system. It helped define legitimate centres, ritual movement and the boundaries of political belonging.

Mušašir provides the clearest example of the intersection between sacred place and frontier power. As a major centre of the cult of Haldi, it occupied a position whose significance exceeded direct administrative control. Sargon II's campaign of 714 BCE and the Assyrian representation of the temple's plunder demonstrate that seizure of sacred wealth could be staged as military victory, economic appropriation and ideological domination at once. The surviving drawings of the lost Khorsabad relief are Assyrian images, not neutral architectural records. Their value lies partly in that bias: they show how an imperial opponent made Urartian sacred space legible within its own visual programme.

The location of Mušašir remains debated. Proposals involving the Rawanduz region, Topzawa, Kelisin and the Hakkari-Yuksekova zone depend on different combinations of textual geography, routes and archaeological inference. Tanyürek and Coşkun have advanced the possibility of a Derav-Yuksekova location within a wider reconsideration of the frontier (Tanyürek and Coşkun 2025). The proposal is relevant to this book because it links sacred geography with the corridors connecting Hakkari, northwestern Iran and the Lake Van core. It remains a hypothesis, assessed against field observations, diagnostic material and alternative route models.

Rock-cut tombs and provincial fortresses in Hakkari add a related but distinct body of evidence. The Çetintaş tomb and the Kunin complex display architectural features that have been compared with Urartian traditions at major centres (Tanyürek and Coşkun 2026a; Coşkun and Tanyürek 2025b). Such similarities may indicate the movement of technical knowledge, elite practices or political forms. They do not by themselves prove continuous territorial administration. Their importance lies in showing how the visual and spatial language associated with Urartian authority could be adopted, adapted or asserted in a frontier environment. Bay Fortress and other nearby sites must be examined within the same multi-centred landscape rather than used as isolated pins marking an assumed border.

The frontier chapters test the theory developed in the basin. If the model applies only to the monumental core around Lake Van, it is not yet a theory of Urartian landscape. In peripheral zones, state investment was less uniform, political affiliations could change, and local actors had greater influence over how architectural and ritual forms were used. Variation is evidence of the mechanisms through which political space expanded and contracted.

Evidence Claims and Uncertainty

An authoritative synthesis must make uncertainty visible. This is particularly important in a study that combines disciplines with different scales and standards of proof. A sediment core, a terrace elevation, an excavated wall, a surface sherd, an inscription and a least-cost path do not answer the same question. They cannot be made commensurable merely by placing them on one map.

Four levels of statement are distinguished throughout the book. The first is direct observation: excavated architecture, recorded finds, measured elevations, documented inscriptions and published geophysical signals. The second is source interpretation:

the function, date or relationship proposed by the excavator or analyst. The third is the interpretation advanced in this book through comparison of independent evidence. The fourth is prediction: a claim about where unrecorded features may exist or which relationship future work should test. These levels may support one another, but the text does not collapse them into a single voice.

Chronology provides the principal control. Two places can be intervisible and never have functioned together. A modelled shoreline can pass beside a fortress while belonging to a period thousands of years earlier. Similar architecture can reflect shared tradition without exact contemporaneity. Before a spatial relationship is interpreted historically, the relevant elements must overlap within a defensible chronological interval. Where dating remains broad, the relationship receives a correspondingly lower level of confidence.

Research history also affects confidence. Excavated royal centres generate dense evidence, while large areas between them remain known through uneven survey. Published distributions may reproduce the geography of scholarly attention. The cultural inventory of Urartu is invaluable, but an inventory is not a neutral census of everything that once existed. Each map distinguishes, where data permit, between site presence, research intensity and chronological confidence.

Computational analysis is used in the same critical manner. Viewsheds can identify what should be visible from a modelled observation height, not what an ancient observer necessarily watched or understood. Least-cost paths formalise assumptions about slope, surface and movement; they do not discover a road. Network measures describe a selected dataset and can amplify its omissions. These tools are most valuable when they expose

assumptions and generate alternatives that can be compared with archaeological evidence.

Sources Methods and Scales

The source base is deliberately mixed because no single archive records the landscape as a whole. Excavation reports provide architecture, stratigraphy, artefacts and local chronology. Regional surveys widen the field but usually work with less secure dating and uneven surface visibility. Urartian inscriptions identify royal agents, divine dedications, construction, conquest and quantities of stored or transferred goods; their formulae present power as the king wished it to be remembered. Assyrian texts and images preserve information unavailable from Urartian sources, although they organise that information around Assyrian campaigns and royal ideology. Environmental studies reconstruct physical processes at scales that range from individual events to hundreds of thousands of years. Each body of evidence is useful because its limitations differ from those of the others.

The analysis begins with source criticism rather than data accumulation. For excavated sites, the argument records context, date, phase and the basis on which a function has been assigned. For survey sites, it distinguishes observed architecture and ceramics from historical identification. For inscriptions, it separates named places and recorded acts from modern localisation. For environmental data, it records the proxy, sampling location, chronological resolution and the geographical scale at which the result can be applied. This prevents a well-dated change in a deep-lake core from being converted directly into a precise shore beside an archaeological site.

Chronological resolution varies sharply within the book. The PALEOVAN cores provide a long sequence supported by varves, radiocarbon, tephrochronology, palaeomagnetism and correlation

with independently dated climate records (Stockhecke et al. 2014a). That sequence establishes long-term environmental behaviour with exceptional authority. It does not follow that every short archaeological phase can be assigned an exact lake level. A royal inscription may narrow the construction of a monument to a reign, while a survey assemblage may span several centuries. Relationships are evaluated at the coarsest secure resolution shared by the evidence being compared.

Spatial scale is handled in a similar way. At site scale, bedrock modification, entrances, terraces, water provision, storerooms and lines of approach reveal how movement and access were organised. At local scale, a centre is related to its fields, springs, landing places, neighbouring settlements and immediate views. At basin scale, the analysis considers corridors, clusters, productive plains and connections across the lake. At interregional scale, it follows the routes toward the Araxes, Urmia, Hakkari and northern Mesopotamia. A process visible at one scale is not assumed to operate unchanged at another. The monumental planning of Ayanis can be examined in detail without making it a template for every provincial installation.

Comparison also requires controls. Formal resemblance is strongest when masonry, plan, technique, chronology and associated material converge. A shared feature on its own may arise from practical constraints or wider highland traditions. The multi-chambered tombs at Kunin and Çetintaş are therefore significant because several architectural and spatial traits have been compared with Urartian elite funerary practice, while their political meaning remains a question for contextual analysis (Coşkun and Tanyürek 2025b; Tanyürek and Coşkun 2026a). The method neither dismisses them as peripheral imitations nor turns resemblance into proof of direct administration.

The same caution governs estimates of economic capacity. Storerooms and pithoi document institutional collection more securely than they document annual production. Canals document sustained labour and water management more securely than they document the total area cultivated in every phase. Textual lists record categories and quantities within specific administrative or commemorative settings, not a complete balance sheet of the kingdom. Çifçi's review of agriculture, animal husbandry, metallurgy, crafts, tribute and administration is important precisely because it compares evidence that earlier reconstructions often separated (Çifçi 2014). This book uses those sectors to reconstruct relations between producing landscapes and centres of accumulation.

Three procedures connect the different archives. The first is chronological intersection: two features are related historically only when their dates can overlap. The second is spatial convergence: a proposed relationship gains strength when topography, archaeology and an independent source point in the same direction. The third is counter-explanation: each major claim is tested against a simpler alternative, such as defence, local tradition, preservation bias or modern route projection. Claims that survive all three tests form the secure structure of the model. Others remain graded hypotheses and are identified as such in the text and maps.

The Cartographic Argument

The eight maps form a sequence of arguments rather than a decorative appendix. Map 1 defines the basin and the principal Urartian centres discussed throughout the book. Maps 2 to 4 examine how alternative lake-level scenarios alter shoreline form, exposed land and the apparent relationship between sites and water. They are experimental surfaces unless tied to a dated reconstruction. Map 5 places fortresses and strategic corridors within the relief of the basin.

Map 6 examines proposed landing places, ports and lake crossings without presenting every connection as a documented route. Map 7 sets Urartian settlement within a longer sequence of occupation. Each map narrows a particular problem before the final synthesis.

Map 8, *Sacred Geography of the Urartian World*, brings together royal centres, cult places and prominent mountains. Tušpa, Ayanis, Kef, Çavuştepe and Toprakkale are shown with Mušašir/Ardini, Mount Nemrut and the working identification Ziuquni (Eiduru). The proposed placement of Mušašir in the Deraw–Yüksekova region is labelled as a hypothesis derived from the interpretation advanced by Tanyürek and Coşkun, not as a settled localisation (Tanyürek and Coşkun 2025). Because that proposal lies beyond the immediate Lake Van frame, the map extends southeastward into the Hakkari highlands.

The connecting marks on Map 8 do not represent roads. They visualise relationships among the cult of Haldi, royal foundations, sanctuary, mountain and political authority that are argued from texts, architecture and spatial setting. Their evidential status is stated in the caption and discussed in the sacred geography chapter. Mušašir receives a distinct symbol because its sanctuary held a religious position unlike that of an ordinary fortress. That emphasis does not remove the uncertainty surrounding its location or its changing political relationship with Urartu and Assyria.

This final map addresses a problem that a distribution of temples alone cannot solve. Sacred geography concerns the way places acquired authority through naming, dedication, ritual movement, royal building and remembered events. The destruction and plunder of Haldi's sanctuary in 714 BCE had political force because the sanctuary's significance extended across the frontier. The Khorsabad representation should be read as an Assyrian construction of victory, while Urartian inscriptions and the

placement of cult buildings reveal a different spatial language of kingship. Map 8 places those competing forms of evidence within one frame without pretending that they speak with the same voice.

Cartography remains part of the volume's auditable evidential apparatus. The maps, legends, captions and accompanying discussions distinguish observed sites from proposed localisations, modelled surfaces and interpretive connections. Debated coordinates and identifications are qualified rather than absorbed into the observed dataset. The maps therefore show where the argument is secure, where it depends on assumptions and where investigation should be directed.

The Contribution of Urartian Landscape Theory

Urartian Landscape Theory organises a fragmented body of evidence around five propositions. Physical conditions changed through time; preservation, submergence, erosion, later land use and research intensity filtered the visible record; institutions selectively concentrated labour, storage, water management, ritual and representation; movement combined terrestrial and aquatic routes with seasonal and political constraints; and ideology gave temples, inscriptions, tombs, mountains and ceremonial settings a material geography.

These propositions produce testable expectations. Sites of similar formal rank may hold different network roles. Some apparent gaps should coincide with poor preservation, submerged ground or limited survey. Route models should fit dated intermediate installations better than straight lines do, and proposed harbours should occur where suitable palaeoshores meet terrestrial access. Royal investment should be strongest where production, movement and ideological visibility converged. Contrary results would require revision.

The volume combines synthesis with a research programme. Geological, palaeoenvironmental, archaeological, epigraphic and spatial evidence answer some questions, while others require better chronology, renewed survey, underwater work, geomorphological coring or transparent GIS modelling. The predictions follow from these evidential limits.

Urartian Landscape Theory explains how a kingdom made space political within a difficult and changing environment, why that space differed between core and frontier, and why its archaeological remains are uneven. Lake Van provides both an exceptional environmental archive and the monumental centre of Urartian power. Routes toward Hakkari, Mušašir, northwestern Iran, the Aras basin and the South Caucasus test the argument where the form and intensity of royal investment changed.

Structure of the Book

The argument proceeds from environmental conditions to historical organisation and finally to theoretical testing. Part One establishes the basin as a changing environmental archive. It examines formation, geomorphology and hydrology; separates long-term climatic records from archaeologically usable chronology; and develops the concepts of the modern shoreline fallacy and the visibility filter.

Part Two follows human occupation before Urartu. Its purpose is not to present prehistory as a linear prelude to the state. It identifies earlier relationships among water, raw materials, routes and settlement, then asks which of those relationships persisted and which were reorganised during the Early Iron Age.

Part Three addresses the Urartian core. Settlement hierarchy and state investment are considered before detailed studies of Tušpa, Ayanis, the northern and western shores, and the southern and

eastern corridors. Each case is evaluated through the same questions: what was observed, when did it exist, what investment did it embody, which movements did it enable, and how certain is the proposed relationship?

Part Four examines the systems that connected sites: water management, agriculture, pastoral production, storage, land routes, lake transport, fortress visibility, sacred landscapes and regional exchange. The separation is analytical rather than historical. The chapters repeatedly return to the points at which these systems intersected.

Part Five formulates and tests the model. Alternative explanations are considered, predictions are stated, and priorities for terrestrial and underwater research are identified. The conclusion returns to the central claim: Lake Van was neither a passive setting nor an environmental force that dictated history. It was a variable spatial medium activated in different ways by communities and institutions. Urartian power emerged from the capacity to organise some of those possibilities at an exceptional scale.

The next chapter begins with the physical formation of the basin. This sequence is deliberate. Before the shoreline can be reconstructed, before a route can be modelled, and before a fortress can be interpreted as a node, it is necessary to understand the geological and hydrological processes that created the field on which those relationships became possible.