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DATA PAPER

Commercial Landscapes of Long-distance Contacts in Western Asia, C. 3200 – 1600 BC: Perspectives from Material Culture

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To our knowledge, the dataset described in this paper represents the largest existing repository of archaeological material culture data for Anatolia, northern Mesopotamia, and northern Levant during the Early and Middle Bronze Age (ca. 3,200 – 1,600 BC). Here we present four types of objects (lapis lazuli and ivory artefacts, Syrian bottles, and balance pan weights) that can be analysed as tracers of long-distance contacts for assessing what exchange patterns and socio-economic dynamics (e.g. gifts, trade, marriage alliances, tribute, market profit, reciprocity, etc.) are responsible for the allocation and distribution of these materials in the Near East.

Keywords: Near Eastern Archaeology; Early Bronze Age; Middle Bronze; Material culture; Long-distance trade; Exchange networks

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(1) Overview

Context

These datasets were originally collected as part of the doctoral projects of the authors, with the aim of identifying and characterising long-distance exchange networks in South-Western Asia by looking at the spatial distribution of finished products, raw materials and technologies in the Early [1] and Middle Bronze Age [2, 3]. This large corpus of archaeological data was further harmonised, polished, and standardised in order to assess comparatively the continuity and discontinuity of specific trade circuits between Anatolia and the Fertile Crescent in the third and early second millennia BC [4].

South-Western Asia's long history of extensive archaeological excavations makes this region an unusually privileged case study for assessing patterns of long-distance exchange and contacts across space and time. Inter-regional interaction in the ancient Near East has provided a stage for rival theoretical frameworks and academic narratives such as hierarchical [5, 6] vs non-hierarchical models [7, 8]. In particular, the wide variety of natural resources in specific areas and deficiencies suffered by other regions (e.g. in certain raw materials such as stone, wood and metals) has played a fundamental role in the economies of early eastern Mediterranean and Middle Eastern complex-societies. It has also promoted, from the eighth millennium BC onwards, different strategies such as trade [9, 10], gift exchange [11], colonisation [8 and 12] and raiding or military conquest [13, 14] to get control and access to the resources of neighbouring or remote regions. Furthermore, the elite practices of display and consumption of exotica stimulated the acquirement of high-status items in the form of specialised manufacture and raw materials (e.g. obsidian, ivory, lapis lazuli, gold, silver) from neighbouring or distant regions and political entities playing as trade partners [15]. Put simply, in South-Western Asia during the Early and Middle Bronze Ages there were several different commercial systems that "consisted of a series of interlocking circuits feeding each other and overlapping at certain nodal points" [10]. However, the third and early second millennia exchange networks have been mainly investigated as separate entities, and their archaeological record has never been synthesised and collected systematically.

Bearing these issues in mind, here we offer the first systematic study and collation of archaeological data arranged in a spatial database from all known published sources from 157 excavated sites with a known occupation between 3,200 and 1,600 BC (**Figure 1**). Four kinds of artefacts such as ivory and lapis lazuli objects, Syrian Bottles, and balance pan weights have been collected. This choice of object types is justified by the fact that these have been proposed as possible tracers of long-distance contacts between different political and cultural entities in Anatolia and the Fertile Crescent, and have a good chance of having been identified in excavated assemblages.

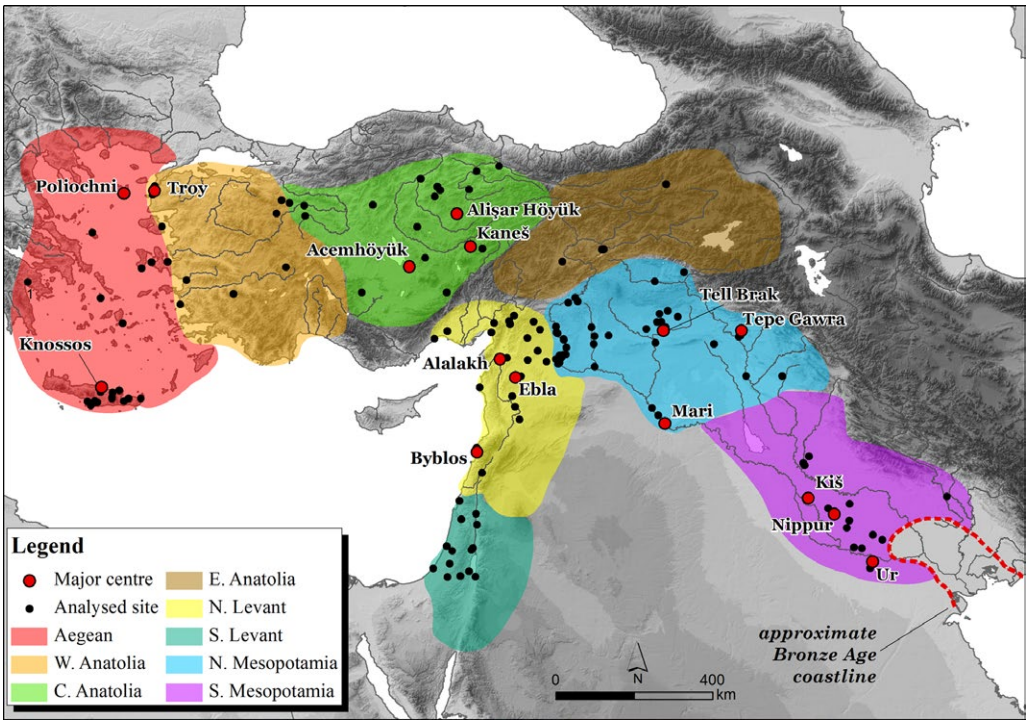

Figure 1: Map of the study area and analysed sites, showing the major geo-cultural regions mentioned in the text.

Spatial coverage

The portion of Western Asia examined here covers around 1,800,000 sq km.
Description: Eastern Greece, Turkey, Syria, Lebanon, Israel, Palestine, and Iraq.
Geographic Coordinate system: World Geodetic System (WGS) 1984.
Datum: World Geodetic System (WGS) 1984.
Northern boundary: 41.832 (decimal degrees)
Southern boundary: 30.115
Eastern boundary: 48.951
Western boundary: 23.012

Temporal coverage

3,200 BC–1,600 BC

(2) Methods

Steps

We have collected data from all excavated sites (n = 157) in Anatolia, northern Mesopotamia and northern Levant with a known occupation between 3,200 and 1,600 BC, recording the on-site occurrence of four types of material culture (lapis lazuli and ivory objects, Syrian Bottles, balance pan weights), their temporal position within the local stratigraphy and any regional chrono-typology. In addition to this core area, limited references are provided for adjacent areas as well, since mechanisms of large-scale exchange can be fully understood only when framed into a broader scale of analysis (see **Figure 1**). The use of the terms 'period' here refer to familiar archaeological episodes in the region such as Early Bronze Age, Early Dynastic, Bronze Age, etc. These cultural units were found to be the most common level of aggregation and standardisation in the archaeological excavation's reports we summarised. Whenever possible, we recorded the stated cultural period in calendrical years in order to provide maximum comparative potential across different archaeological excavation reports, standardising period-based terminology where necessary.

The data have been stored in a spatial database where for each site there is a series of information of its assemblage (e.g. number of items, shape typology, context periodisation, etc.).

Sampling strategy

The datasets provided here were derived from all existing publications known to us (e.g. archaeological excavation's reports, regional syntheses, research articles, etc.) spanning the chronological and spatial scope of interest. In particular, it is worth noting that the archaeological data derived from excavations involved a variety of different methods and investigative intensities.

Quality Control

All published data have been checked in detail by also making use, wherever possible, of the archaeological stratigraphic sequence of the original contexts in which the artefacts were found. The cultural periods have been standardised and translated into calendric years wherever possible.

Constraints

One of the major limitations of the present datasets rests in the uneven coverage of archaeological investigation across the study area. While large portions of the Levant and northern Mesopotamia have very high densities of excavated sites, western and central Anatolia remain relatively unexplored and scantily known to the international archaeological community. This is particularly true for the area that was likely at the interface between these two-largely separated worlds, i.e. the Taurus and Anti-Taurus ranges and Cappadocia. In addition, well-excavated contexts belonging to the fourth and early/mid

third millennia are extremely rare across the whole central Anatolia (an area covering some 200,000 km^2), at least partly because major Late Chalcolithic/EBA sites are mostly buried under the MBA/LBA centres (e.g. Kültepe, Acemhöyük, Ovaören, Alacahöyük, Konya-Karahöyük among others). So far, only late third millennium contexts (local EB III, ca 2400–1950 BC) have been to some extent investigated, and this prevents understanding potential dynamics of interaction between this area and the Near East for earlier periods. Glimpses of these dynamics are only captured in western Anatolia where early EBA sites are better investigated; this region is however at the very margin of the Mesopotamian "supernetwork" and therefore of limited interest. The opposite is true for the MBA phase, where central Anatolian sites are quite well-known, but contemporary western Anatolian sites are only scantily investigated. Furthermore, there is an obvious patchiness in the quality, quantity and accessibility of scientific research, with the Anatolian archaeological arena still dominated by publications in Turkish and a wide range of local research outlets that are difficult to retrieve for the non-specialist.

The scarcity of both synthetic and analytical studies makes it difficult to integrate scholarship carried out in Anatolia with the broader Near Eastern context. More in general, the tendency of attributing an intrinsic value to "artwork" (such as ivory and lapis lazuli artefacts, among others) independently of their archaeological context often results in the lack of contextual information attached to these objects, and thus in the difficulty in understanding the socio-economic background to the production, exchange and consumption of such commodities. In addition, the scarcity of object characterisation and provenance studies for most of the investigated categories is certainly a major drawback. In most publications, ground stone artefacts are not studied by specialists and/or are not assessed by chemical analysis, therefore their attribution to a specific mineral is only tentative. Similarly, the untrained eye can easily mistake bone, limestone or shell for ivory, and non-specialists generally fail to distinguish between ivory coming from elephant, hippopotamus or boar tusks [16, 17]. Additionally, provenance analyses on ground stone, lapis lazuli and ivory are still in their infancy and have been applied only in a very limited number of contexts [18], therefore severely limiting our ability to pinpoint the source of a specific product directly.

Another relevant limitation is archaeological visibility: the small dimension of some lapis-lazuli and ivory artefacts (e.g. beads, pins, pendants, inlays, etc.) and balance weights makes them easy to be misplaced and missed in archaeological excavations lacking a careful stratigraphic methodology. In addition, these objects could be subject to lateral cycling that makes tricky to discern their original provenance and period of use [16]. In the case of the balance weights, they have usually not received sufficient coverage in archaeological excavation reports as their value and importance have been too often underestimated and misinterpreted by excavators. Particularly emblematic is the discrepancy between the mention of large quantities of ivory and lapis lazuli artefacts in textual evidence and their almost absence in the archaeological record. For instance, the retrieval of four lapis lazuli objects for the whole Middle Bronze Age Anatolia contrasts with the mention of at least 60 shipments of lapis lazuli in the Old Assyrian documents [19].

(3) Dataset description

Object name

Ivory – a set of two files respectively providing a spreadsheet (.xlsx) of ivory artefacts distributed in Western Asia during the Early and Middle Bronze Age, and a field description for the attributes of the objects (.txt).

Lapis_lazuli – a set of two files respectively providing a spreadsheet (.xlsx) of lapis lazuli artefacts distributed in Western Asia during the Early and Middle Bronze Age, and a field description for the attributes of the objects (.txt).

Bottles – a set of two files respectively providing a spreadsheet (.xlsx) of Syrian Bottles distributed in Western Asia during the Early and Middle Bronze Age, and a field description for the attributes of the objects (.txt).

Weights – a set of two files respectively providing a spreadsheet (.xlsx) of balance pan weights distributed in Western Asia during the Early and Middle Bronze Age, and a field description for the attributes of the objects (.txt).

EBA_ivory – a set of three files respectively providing a vector point (in .shp and associated files) and a spreadsheet (.csv) representing all the archaeological sites yielding ivory artefacts during the Early Bronze Age, and a field description for the attributes of the sites (.txt).

MBA_ivory – a set of three files respectively providing a vector point (in .shp and associated files) and a spreadsheet (.csv) representing all the archaeological sites yielding ivory artefacts during the Middle Bronze Age, and a field description for the attributes of the sites (.txt).

EBA_lapis – a set of three files respectively providing a vector point (in .shp and associated files) and a spreadsheet (.csv) representing all the archaeological sites yielding lapis lazuli artefacts during the Early Bronze Age, and a field description for the attributes of the sites (.txt).

MBA_lapis – a set of three files respectively providing a vector point (in .shp and associated files) and a spreadsheet (.csv) representing all the archaeological sites yielding lapis lazuli artefacts during the Middle Bronze Age, and a field description for the attributes of the sites (.txt).

EBA_bottles – a set of three files respectively providing a vector point (in .shp and associated files) and a spreadsheet (.csv) representing all the archaeological sites yielding Syrian bottles during the Early Bronze Age, and a field description for the attributes of the sites (.txt).

MBA_bottles – a set of three files respectively providing a vector point (in .shp and associated files) and a spreadsheet (.csv) representing all the archaeological sites yielding Syrian bottles during the Middle Bronze Age, and a field description for the attributes of the sites (.txt).

EBA_weights – a set of three files respectively providing a vector point (in .shp and associated files) and a spreadsheet (.csv) representing all the archaeological sites yielding balance pan weights during the Early Bronze Age, and a field description for the attributes of the sites (.txt).

MBA_weights – a set of three files respectively providing a vector point (in .shp and associated files) and a spreadsheet (.csv) representing all the archaeological sites yielding

balance pan weights during the Middle Bronze Age, and a field description for the attributes of the sites (.txt).

References – a file providing a list of references (.txt file) of published data stored in the spreadsheets Ivory.csv, Lapis_lazuli.csv, Bottles.csv, and Weights.csv (see field "Reference").

Data type
Primary and secondary data, and processed data from originally published materials.

Format names and versions
.csv, .shp, .txt, .xlsx

Creation dates
The datasets were created between October 2015 and January 2017.

Dataset Creators
Michele Massa and Alessio Palmisano

Language
English

License
CC0

Repository location
The full datasets are available at: https://doi.org/10.14324/000.ds.10027581.

Publication date
30/10/2017

(4) Reuse potential
This data set represents what is to our knowledge the largest existing collation of archaeological material culture data for Western Asia during the Early and Middle Bronze Age (ca. 3,200 – 1,600 BC). The vector point (.shp) and the spreadsheet (.csv) data represent a comprehensive (in our view) resource, providing a good basis and a start point for people dealing with the types of objects here described (lapis lazuli and ivory artefacts, Syrian bottles, and balance pan weights). These four categories of material culture represent an essential source for understanding the socio-economical dynamics that caused its spread across Anatolia and the Fertile Crescent during the Bronze Age. In particular, the analysis of these datasets can be useful for assessing on a broad regional scale (a) exchange patterns of types of artefacts and economic strategies (e.g. gifts, trade, marriage alliances, tribute, market profit, reciprocity, etc.), (b) Long-distance contacts and cultural transmission of technologies, and (c) continuity and discontinuity of specific trade circuits at various temporal and spatial scales.

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Competing Interests
The authors have no competing interests to declare.

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