Photo: The Hittite capital (Hattusha) from above with Temple.

LANDSCAPE OR CULTURAL PROCESSES: WHO CAME FIRST? EVOLUTION OF SETTLEMENTS IN HITTITE ANATOLIA

Why is something just there? And, why is something just not there?
These seemingly simple questions are fundamental for understanding humanity touching almost every aspect of our daily life – past, present, and future. For example, take one object that usually accompanies you through the day, such as your cell phone: Where does its journey start, where does it end? What does your usage of it and its meaning say about you? What influenced your decision on how to interact with this object?
The story of an object is irrevocably linked to culture and cultural values, forming for example identity. This is true for small objects but also for buildings and roads, villages and cities... and even for the landscape itself.

A RESEARCH TALE BY

Anne Landskron

DEPARTMENT

Historical Studies

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The study of the landscape has shown a varied development in archaeology, even if it has only found a broad entry into research since the late 1980s and is therefore still relatively young. Particularly interesting to note, is the changing view of landscape as no longer just a physical space with resources that provide people with a subsistence economic basis: it can also be interpreted using phenomenological approaches, meaning through the "perceptual experience [...] from the point of view of the subject." (Tilley 2009). In this sense, there isn't only one landscape, but also a "vision-scape", a "smell-scape", a "sound-scape", and so on. How environments affect the development of culture, how in turn cultural activities shape and manipulate environments, are closely related to how people experience the world and with cultural-specific decision-making processes that lead to the formation of space.

In the course of the PhD programme *Tech4Culture* at the University of Turin I want to identify for the first time cultural-specific decision-making processes that led to the formation of space, specifically for the cultures of the Anatolian landscape, utilizing Geographical Information Systems (GIS) as a technical tool.

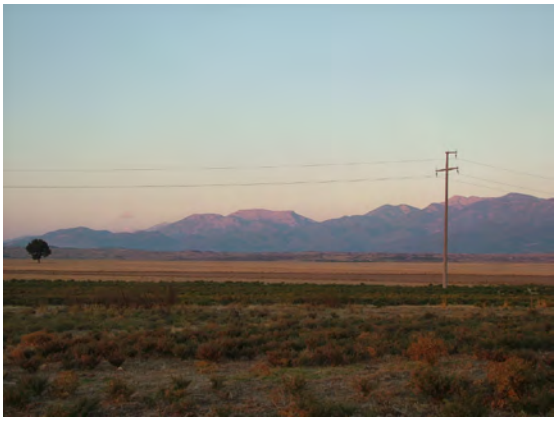
Despite growing scholarly interest in studies in human-environment dynamics, the analysis of the Anatolian landscape is still under-explored. In part, the paucity of systematic investigation can be attributed to the continuing focus on the investigation of rather larger sites. Additionally, studies from specialists concerning the reconstruction of regional climates, land use, and so on are rare. However, the necessity of understanding the human-environment dynamics of this region is especially evident when one examines more closely the Hittite settlement policy: the founding of new settlements and the abandonment of most former tell (an artificial mound consisting of the stratified debris) settlements reveal a restructuring within the societies of Central Anatolia around the 2nd half of the 16th century BC, implicating an intentional change in local perceptions of space.
The ultimate goal of my research is to differentiate between geographical constants and socio-cultural decisions of man for the cultures of the Anatolian landscape. The project´s principle objective that will be used to achieve this goal, is the comparative reconstruction of the archaeological landscape of Central and Eastern Anatolia from the Chalcolithic to the Iron Age. The most important aspects to be analysed include:

(1) Settlement patterns: which type of settlements (dwellings, fortifications, quarries, etc.) can be deduced and mapped from excavation and survey data? Can persistence and/or change be documented in regard to their locations and characteristics?
(2) Location factors: which resources (watercourses, building materials like wood and clay, metal, etc.) can be identified as essential location factors for the sites, and where are they situated in the research areas and time periods?
(3) Human adaptation strategies: how did the environment form human behaviour and in turn, how did human activity shape and manipulate the landscape? Furthermore, is it possible to determine human agency and decision-making processes for a specific geographical region and culture?

The computational approach combined with a multi-source model derived from historical, textual, and archaeological records of different periods will lead to an exclusion or inclusion of specific location factors influencing settlement patterns through time. While GIS-based analyses represent a decision-making process based solely on efficiency, e.g. optimal proximity to resources, with the help of the multi-source model, factors such as superstition, religious tradition, aesthetics, etc. that form an attraction to or rejection of certain points or areas can be determined. With that, it will be possible to identify cultural-specific decision-making processes that led to the formation of the space in Central and Eastern Anatolia, specifically for the Hittite period. At the same time, the evaluation of possible location factors will help to calibrate computational calculation parameters, supporting the adaption of GIS technologies into archaeology.

The unparalleled investigation of this type to date raises many questions, such as the nature of society and the means of power and control at its disposal. Furthermore, the diachronic approach will establish a unique continuous dataset of settlements and their characteristics for future investigations of ancient cultures in Anatolia.

The landscape diversity of Anatolia ranges from open plains to hills and mountains (a-b), from sparse landcover to small agricultural niches (c-d), often untraceable on maps.



(a)

(b)

(c)

(d)