

Adding Stratigraphic Information to Network Analysis of Ancient Pottery

*M.A. M.A. Sophia Evamaria Marxer
Institut für Archäologische Wissenschaften, Universität Bern
Archäologisches Seminar, Philipps-Universität Marburg*

Abstract

The presented project is part of my PhD thesis, which I have been writing since October 2021 at the University of Bern (Switzerland) in Near Eastern Archaeology and since October 2022 in the framework of a Cotutelle (binational promotion) at the University of Marburg (Germany) in Classical Archaeology.

The material basis for my project is formed by the finds from the excavations at Sirkeli Höyük. Sirkeli Höyük is one of the largest settlement mounds in Cilicia and is located 40 kilometers east of Adana. Sirkeli Höyük is about 350 meters by 300 meters and consists of an oval main mound and a flat terrace in front to the north, which form an 8-hectare citadel that was located on the north side of the walled city of over 20 hectares. The site was inhabited from the Chalcolithic (about 5000 BC) throughout the Bronze Age (3000-1200 BC) and Iron Age (1200-300 BC) until the Hellenistic Period (330-50 BC) (Novák u. a. 2020).

So far, in cooperation with the excavation team of the Sirkeli Höyük Project, I have been able to add 8'709 Hellenistic pottery fragments to the project database, of which 2'887 pieces were examined by me in more detail. The documentation is completed by stratigraphic information, which allows me not only to locate each sherd but also to put them into a chronological order.

For my PhD project, I'm using the program Nodegoat to run network analysis and visualize data (Knappett 2015; Peeples 2019; Van der Leeuw – Sander 2013). In previous studies, I generated a typology of the Hellenistic pottery with the help of network analysis (Marxer 2022a; Marxer 2022b). Now, the main question of my poster will be: How can I include stratigraphic information in my network analysis? Stratigraphic information is the connected information between the location as well as the time frame of the find. I'm talking about a time frame here because, mostly, like in my case, there are no exact dates but phases with time frames within which the pots must have been in use. I have now tried to include this information in my network analysis with the data of my ceramic typology to gain new insights about the chronological use of the different pottery.

The aim of my project is to be an example for all further archaeological investigations using network analysis to include time and temporality in terms of stratigraphical information, and not in terms of exact dates.

References

Knappett (Hrsg.) 2013

C. Knappett (Hrsg.), *Network analysis in archaeology. New approaches to regional interaction* (Oxford 2013)

Knappett 2015

C. Knappett, *An Archaeology of Interaction. Network Perspectives on Material Culture and Society* (Oxford 2015)

Marxer 2022a

S. Marxer, *Netzwerkanalyse eine Chance in der Archäologie: Ein praktisches Beispiel an einem Keramikfundkorpus*, Nodegoat Show & Tell, 20. Mai 2022 (Universität Bern)

Marxer 2022b

S. Marxer, *Network Analysis as an Opportunity for Archaeology. Creating Ceramic Typologies with the help of Nodegoat.*, Nodegoat Day 2022, 2. Dezember 2022 (Universität Bern)

Novák u. a. (Hrsg.) 2020

M. Novák – E. Kozal – D. Yaşin-Meier (Hrsg.), *Sirkeli Höyük. Ein urbanes Zentrum am Puruna-Pyramos im Ebenen Kilikien : Vorbericht der schweizerisch-türkischen Ausgrabungen 2006-2015*, *Schriften zur Vorderasiatischen Archäologie v.13* (Wiesbaden 2020)

Peeples 2019

M. Peeples, *Finding a Place for Networks in Archaeology*, *Journal of Archaeological Research* 2019/27, 451–499

Van der Leeuw – Sander 2013

Van der Leeuw – Sander, *Archaeology, networks, information processing, and beyond*, in: C. Knappett (Hrsg.), *Network Analysis in Archaeology. New Approaches to Regional Interaction* (2013) 335–349