

הפקולטה למדעי הרוח  
Faculty of Humanities  
Tel Aviv University

The Jacob M. Alkow Department of  
Archaeology & Ancient N.E. Cultures

החוג לארכיאולוגיה ותרבות המזרח הקדום  
על שם יעקב מי אלקוב

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Review of the dissertation by Karolina Joka, "Plant Cultivation and Commodification in the Chalcolithic and Early Bronze Age of Southwest Asia and their Cultural Significance. The case of Late Ubaid Gurga Chiya (Iraqi Kurdistan), Early Bronze Age Kani Shaie (Iraqi Kurdistan), and Early Bronze Age Tel Qedesh (Israel)"

The dissertation is comprised of three papers published in recognized Q1 scientific publications, introduced by a synthetic summary of their results and combined significance. Each paper represents a complete suite of basic research – fieldwork, sampling and archaeobotanical identification, as well as – in two cases – isotopic analyses, conducted over several years in challenging conditions and resulting in a rich trove of original data from recently excavated sites in Iraqi Kurdistan and Israel.

The three case studies are framed by a coherent research question: Can archaeobotanic (and associated isotope) analyses contribute to the articulation of commodified agricultural economies at the cusp of the Early Bronze Age (5<sup>th</sup> – early third millennia BCE), when urbanism and centralized polities are broadly considered to have made their appearance in Western Asia? In addition, more specific research questions are addressed: the identification of agricultural strategies and surplus production, and the utilization of isotope studies in the study of olive and grape production. To address these questions, two assemblages from Late Chalcolithic (Gurga Chiya, about 25,000 specimens) and Early Bronze (Kani Shaie, about 10,500 specimens) Iraqi Kurdistan were studied, alongside one from the Early Bronze Levant (Qedesh, about 1200 specimens). These sites were well-chosen, both in terms of location and period, and of quality, providing sufficiently controlled and narrowly dated assemblages for each period studied. A separate question, which I will return to below, is that of representation, i.e., can these sites indeed be used as proxies for the broad question posed at the outset of the project.

The first site in chronological terms (Gurga Chiya), shows shifts in the accretion of agricultural surplus in individual households through extensification, which is often considered a precondition for the emergence of economies of scale. The second site, Kani Shaie, adds a component of administration and redistribution on a local scale to that of surplus. The third site, Qedesh, testifies to the entry of carefully managed fruit crops – often characterized as cash crops – into the mix in the incipient urban economies of the southern Levant. The first two papers may thus serve to advance a more general theory on the process of agricultural commodification at the cusp of urbanization, suggesting the emergence of varying local strategies for surplus distribution that are neither mutually exclusive nor



necessarily developmental (for example, the use of sealing for administration and control first emerges in the Late Neolithic, disappears and then reemerges). The third paper points to the potential of more systematic analysis for the study of fruit commodification and can be said to be more of a foundational study, establishing a baseline for future work.

As an archaeologist and non-specialist in archaeobotany, I cannot comment on the methodological aspects of the laboratory work, for which I defer to the peer review process employed in the two journals. I can, however, comment on the broader ambitions of the dissertation, the compatibility of the sites chosen for study with these ambitions, and the general value of the dissertation.

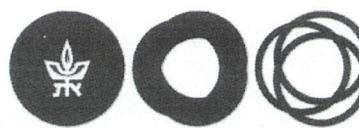
Regarding the first, it is a decided advantage of this study that both the conduct of the fieldwork and the writing of the individual reports are executed with a clear objective in mind; this objective allows the researcher to focus on those aspects of her fieldwork and writing that are most relevant to the intended result, elevating the work from mere data accumulation. In this sense, the papers are a good fit within the overall dissertation design. The bibliographies related to the individual case-studies, as well as the broader theoretical framework, are balanced and up-to-date.

Regarding the second, there is a fundamental constraint that affects all high-resolution research of the type attempted here: For the datasets to be manageable, they must represent either a qualified selection within a larger assemblage or an exhaustive sampling of a limited context. Both cases present a challenge for drawing generalized conclusions, as they might express a bias related to highly localized context or to the sampling strategy. Similarly, when comparable studies are rare – as is the case here – the work in question serves more of a baseline for future work than a synthesis that allows generalizations. For this reason, any conclusions based on these studies should be plausible and theoretically informed, but nonetheless preliminary by their very nature (this might have been more clearly stated in the introductory synthesis).

This, in turn, has implications for the general value of the dissertation: Without a doubt, each case study successfully demonstrates the implementation of a retrieval strategy and the drawing significant conclusions that illustrate divergent strategies of crop management and distribution. This is of great importance for future work, as it shows the viability of his type of study for the period in question (early urban/early state) and encourages future work. Moreover, the somewhat unexpected, non-linear progression exhibited at the first two sites in fact goes against the grain of the underlying hypothesis of the dissertation, framed in accordance with technological and social evolutionary frameworks that have dominated the field in recent decades. The author virtually says as much in her own description of the results at Kani Shaie (p. 13; *italics added*):

Evidence of surplus management, redistribution, and administrative practices at this small rural settlement *challenges traditional perspectives* that associate these features solely with urbanization (Graeber and Wengrow 2021). The site *underscores the diverse pathways leading to social complexity*.

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## הchg לארכיאולוגיה ותרבותיות המזורה הקדום על שם יעקב מי' אלקוב

in Early Bronze Age Mesopotamia. Findings from Kani Shaie contribute to a growing body of research showing how agricultural production and resource management laid critical foundations for social complexity. By examining these processes across a variety of sites and settlement sizes, we can gain a *more nuanced understanding* of the origins of urbanization and the emergence of elements commonly linked to complex societies.

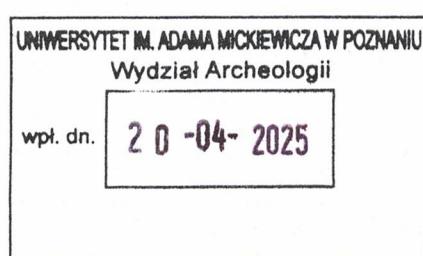
I would even suggest that in future publications, if not in the concluding remarks to this dissertation, the author should be more bold in questioning the old evolutionary frameworks and formal economics that informed her original hypothesis and perhaps even the notion of 'complexity' itself, which often appears to play the role of a euphemism for concepts like 'civilized' or 'advanced' that have rightly fallen out of fashion.

In light of the above, I believe that Karolina Joka has completed research of sufficient breadth and quality to be awarded the degree of PhD, and recommend that she proceed with the defense of her dissertation.

Sincerely,

Ref: Frank

Raphael Greenberg  
Professor of Archaeology  
Tel Aviv University



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