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Book Review: Social Network Analysis and Egyptology

Danijela Stefanović, *Social Network Analysis and Egyptology*, Routledge Focus on Egyptology, London/New York 2024, 104 p. + 20 figs., DOI: 10.4324/9781003457015, link to figures in a better resolution: <https://www.routledge.com/Social-Network-Analysis-and-Egyptology/Stefanovic/p/book/9781032599632>, ISBN 9781032599632, Hardback GBP 54.99, eBook GBP 17.99

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Danijela Stefanović's introduction to Social Network Theory (SNA) and its applications in Egyptology and Papyrology provides a structured yet accessible overview of the field. As she explicitly states on page 4, the book is "neither a manual nor a how-to-do book"; instead, it emphasizes the necessity of tailoring research approaches to the specific questions and source materials at hand. The small book – under 100 pages – is well-organized, beginning with a short introduction, followed by an overview of SNA, its key concepts, terminology, methods, and objectives. The subsequent chapters trace the history of SNA in Egyptological and Papyrological research, explore its potential applications, and present four case studies focusing on Middle Kingdom Abydos. The book concludes with a summary and a general index. Written in an accessible style, it is not only valuable for scholars but also recommended for students new to the field.

Importantly, Stefanović clarifies both what SNA is and what it is not, addressing common misconceptions and methodological limitations. She highlights, for instance, that SNA provides only a "snapshot" (p. 15) of social structures and warns against oversimplifications, noting that human actors often play multiple roles and belong to different networks simultaneously.

The book explains key terminology essential to SNA, including fundamental concepts such as actors (or nodes) and the connections between them, known as edges or ties, which can be directed or undirected and vary in strength and properties. It also covers distinctions between ego-networks – focusing on a single actor and their immediate connections – and more complex networks, as well as technical terms like sociograms, network density, centralization, mono- and bipartite networks, multiplexity, symmetry, in-degree and out-degree, various measures of centrality (including betweenness, closeness, and periphery-center relationships), and modularity. The roots of SNA can be traced back to the late 19th century in the field of sociometry, but its formal development began in 1979. Today, it is a valuable tool for handling large datasets, allowing scholars to detect patterns, identify clusters, recognize strong and weak ties, and, crucially, to visualize entire networks of entities – whether people, objects, or locations – through infographic representations. Stefanović also introduces Actor-Network Theory (ANT), discussed further in Chapter 2, which expands on SNA by incorporating non-human actors into network dynamics. In the context of Egyptology, ANT and bipartite network analysis have proven particularly useful for studying complex relationships, such as tomb ownership and reuse, as well as the role of non-human actants in ancient social structures. This approach aligns with previous research by scholars such as Martin Fitzenreiter and Uroš Matić.

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In chapter 3, Stefanović provides an overview of the use of Social Network Analysis (SNA) in Egyptology, including its applications in Coptology and Papyrology. Notably, the field remains relatively underdeveloped, with only a limited number of studies engaging with network methodologies. Among the scholars whose research has contributed to this area are Renate Dekker, Lena Tambs, Vincent Chollier, and Anne Herzberg-Beiersdorf, to name a few (see the bibliography in the book, which is state of the art). A seminal study applying SNA is that of Giovanni Ruffini (2008), *Social Networks in Byzantine Egypt*, which is discussed in Chapter 3. Ruffini's work utilizes papyrological data to reconstruct the social and professional networks of the Apiones, a prominent aristocratic family in 7th-century Aphrodito.

Despite its potential, SNA has not been widely adopted in papyrology, a discipline that is particularly reliant on and shaping Digital Humanities methodologies. Nevertheless, *Trismegistos* (TM) must be mentioned and is addressed in its own subchapter. Starting from the *Prosopographia Ptolemaica* (ProsPtol), this database has evolved into TM People, integrating Gephi-generated graphs that allow for more sophisticated visualizations of personal networks.

Chapter 4 addresses several methodological challenges associated with applying SNA to the ancient sources. Chronological uncertainties, difficulties in dating documents, and ambiguities in readings of the texts pose significant obstacles, as do the recurrence of similar names, titles, and professions across generations. The interpretation of relational terms such as “brother” and “sister” is particularly problematic, as these designations could indicate biological siblings, spouses, professional colleagues, or members of religious or military institutions. Similarly, reconstructing household compositions – including the presence of servants and other dependents – introduces further complexities. As Stefanović rightly emphasizes (pp. 35, 43), these issues are not unique to Egyptology or Papyrology but are common challenges in historical network analysis. The fundamental question, then, is not how to eliminate such uncertainties – an impossible task – but rather how to model them effectively and address them transparently in scholarly publications.

I would like to add two use cases of the application of SNA in Egyptology: pattern detection, as seen in the AKU project on clustering hieratic signs,¹ and the potentials for the history of disciplines by mapping the social networks of scholars.²

Chapter 5 presents four case studies from Middle Kingdom Abydos (2040–1750 BCE), a period was hitherto underrepresented in SNA research. Abydos, one

1 <https://en.aku.uni-mainz.de/project/>.

2 See, e.g., <https://archiv.saw-leipzig.de/>

of Egypt's most historically significant sites, has a long *durée* of attestations and is a focal point of Egyptological fieldwork for decades. Best known for its Early Dynastic royal tombs and the monumental temples of the New Kingdom, the site remained in use well into Late Antiquity. Its enduring religious significance is largely tied to the Osiris myth, as Abydos was traditionally believed to house the tomb of Osiris, making it an important center for cultic activity and private offerings. Given her expertise in the Middle Kingdom, Stefanović focuses on non-royal offerings deposited in chapels attached to the enclosure wall of the Osiris Temple – an area referred to as the “Terrace of the Great God.” Drawing on inscriptions, stelae, and papyri, she reconstructs the social networks associated with these offerings and the individuals who played key roles within them.

The first case study examines the treasurer Ikhernefret, whose extensive network is divided into four distinct subgroups, including one centered around his mother. The second focuses on the lady Renni and her connections to sculptors, leading Stefanović to speculate on possible identifications of individuals bearing the same name in other sources. The networks of the treasurers Senebsumai and Senebi form the third case study, shedding light on the roles of women, the *cursus honorum* of some men, and the relationship between gender and data. This case also serves as an example of how gaps in networks – whether chronological or personal – can be addressed within SNA. Finally, the fourth study analyzes the broader Abydos network as a “small world,” offering insights into several key methodological considerations. These include the importance of adopting an emic perspective on families, households, and social networks; the influence of spatial factors on festivals and cultic practices; the role of Osiris (and divine/non-human actors in general) within network structures; and gender dynamics. Moreover, Stefanović highlights how weak ties can serve as crucial bridges between separate networks, offering a “smoking gun” for tracing otherwise hidden connections.

In her findings, Stefanović notes that “formal application of network theories and concepts are still scarcely represented in Egyptology. Consequently, examples from Ancient Egypt are only occasionally included in historical network studies” (p. 27). This situation is somewhat paradoxical, given the wealth of available data on individuals in ancient Egyptian sources – particularly in comparison with other ‘premodern’ historical periods – and considering that Egyptology and Papyrology have often been at the forefront of the Digital Humanities. One particularly thought-provoking point raised by Stefanović is what she terms a “considerable distrust toward visualizations” (p. 43). While visual representations of data, from infographics to statistical share images, are widely accepted in the public sphere, academic discourse appears to remain skeptical of their interpretative value. This may stem from a general tendency to resonate more strongly with narrative explanations than with statistical representations in academic circles. However, as Stefanović argues, scholars should be encouraged not only to publish their findings in prose but also to share datasets, ensuring that their re-

search remains both comprehensible and reusable for future studies. She also introduces the idea of SNA as a “game” (pp. 4–5 and 75–78), using this metaphor to highlight the unpredictable nature of network reconstructions, particularly when sources are compiled incrementally through the snowball principle. In Chapters 4–6, the author explores various directions for further research, such as the application of SNA to micro-historical studies (p. 40). These discussions suggest that while network analysis in Egyptology is still developing, it holds significant potential for refining our understanding of ancient social structures and advancing digital approaches to historical inquiry.

One of the book’s strengths is its accessibility, as the chapters can be read independently; key information is either repeated or referenced in the notes, ensuring coherence for readers who do not proceed sequentially. Early on, Stefanović addresses a critical issue for SNA – the necessity of digital full texts (p. 1) – acknowledging the uncertainties inherent in working with incomplete or fragmentary data.

From a production standpoint, the book is of high quality, with very few typographical errors and a stable binding. However, its price is rather high, likely limiting the appeal of the hardcopy edition, especially for students. The decision to use mostly transliterations for Egyptian names is somewhat inconvenient for readers outside the field. A more significant drawback, and this is probably an issue of the publisher, concerns the book’s 20 figures, often not ideally positioned within the chapters. While these figures (generated with Gephi) are crucial for visualizing networks, they are only available in black and white in the print edition. Given that the original graphs contain multiple colors, numerous nodes labeled with names, and directional edges marked by arrows, the monochrome presentation renders many of them nearly illegible – often appearing as little more than blurred grey clusters. This limitation underscores the need for the online version of the figures.

That being said, these criticisms are minor and should not overshadow the fact that Stefanović has written a highly engaging, easy-to-read, and clear book. This work is certain to become the standard introduction to SNA in Egyptology and Papyrology, providing an essential foundation for both students and scholars in the field. And hopefully inspiring more scholars to include SNA into their research!