Peer Community In Archaeology

Rewriting Archaeological Narratives: Archaeology of Archaeology through 3D Site Topography Recording

Devi Taelman *based on peer reviews by* ***Catherine Scott***, ***Geert Verhoeven*** *and* ***Jesús García-Sánchez***

Waagen, Jitte & Wijngaarden, Gert Jan van (2024) Understanding Archaeological Site Topography: 3D Archaeology of Archaeology. Zenodo, ver. 3, peer-reviewed and recommended by Peer Community in Archaeology.
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Even though applications of 3D recording have existed in archaeology for a long time, it is only since the early 2000s that this field of research has become mainstream thanks to technological advances, and the availability of low-cost sensors and image-based modelling software. This has led to significant changes in the way archaeological sites are documented. This paper entitled "Understanding Archaeological Site Topography: 3D Archaeology of Archaeology" by Jitte Waagen & Gert Jan van Wijngaarden (2024) presents an overview of the current developments in the application possibilities of 3D site topography recording in archaeology. The paper is the result of the round table discussion "Understanding Archaeological Site Topography: 3D Archaeology of Archaeology" at the CAA conference on 5 April 2023 in Amsterdam, with contributions from Radu Brunchi, Nicola Lercari, Joep Orbons, Davide Tanasi, Alicia Walsh, Pawel Wolf and Teagan Zoldoske.

The paper starts with a discussion of the Amsterdam Troy Project (ATP). In the frame of the ATP, the rich history of archaeological activity (over 150 years of fieldwork) at Troy is being studied to explore how previous archaeological research has helped to shape the current topography of the site and how these earlier research activities, embedded in their contemporary theoretical frameworks, have determined our understanding of the site (see Murray and M. Spriggs 2017, Carver 2011 for the influence of theory on archaeological fieldwork and archaeology as a discipline), the so-called 'Archaeology of Archaeology' approach. In addition to studying previous research records and re-excavating old excavation trenches, a central element of the project is the 3D recording of the past and present topography of the site in order to reconstruct the archaeological research activities at the site and their impact on the archaeological landscape.

The paper focuses on current trends in 3D recording of archaeological site topography and discusses three main areas where 3D recording of archaeological site topography can contribute to the "Archaeology of Archaeology" approach: (1) monitoring the topography of sites for preservation, conservation, research and dissemination purposes; (2) reconstructing, reevaluating and reinterpreting past archaeological research efforts; and (3) archiving in a 4D (GIS) environment. This is done using the example of the Amsterdam Troy project and comparing it with other projects using similar methods and approaches. Using these case studies, the authors effectively discuss the impact of these technologies on the understanding of the topography of archaeological sites and how 3D recording can enhance archaeological research methodologies and interpretations, for example, by not using such 3D approaches as a stand-alone product but integrating them with available information from previous research activities. They also recognise the limitations and challenges involved, such as the need for customised data acquisition strategies and the lack of ready-made software solutions for developing comprehensive data management strategies.

One topic that could have been covered in more detail is how 3D site topography recording (and 3D recording in general) is affected by current theoretical developments in archaeology. Like any other archaeological fieldwork or data collection approach, it is a child of its time. Decisions such as what to record, how to record, what to store, how to store, what to visualise, and how to visualise influence our understanding of archaeological sites (Ward 2022). This minor critical reflection aside, the paper makes a timely and significant contribution to archaeology by addressing current trends and the limitations of the increasingly widespread use of 3D site topography recording technologies.

References:

Carver, G. (2011). Reflections on the archaeology of archaeological excavation, Archaeological Dialogues 18(1), pp. 18–26. https://doi.org/10.1017/S1380203811000067

Murray, T. and Spriggs, M. (2017). The historiography of archaeology: exploring theory, contingency and rationality, World Archaeology 49(2), pp. 151–157. https://doi.org/10.1080/00438243.2017.1334583

Ward, C. (2022). Excavating the Archive / Archiving the Excavation: Archival Processes and Contexts in Archaeology, Advances in Archaeological Practice 10(2), pp. 160–176. https://doi.org/10.1017/aap.2022.1

Waagen, J. and van Wijngaarden, G.J. (2024). Understanding Archaeological Site Topography: 3D Archaeology of Archaeology, Zenodo, 10061343, ver. 3 peer-reviewed and recommonded by Peer Community in Archaeology. https://doi.org/10.5281/zenodo.10061343

Reviews

Evaluation round #1

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Version of the preprint: 1

Authors' reply, 22 January 2024

Dear Devi,

Thank you for recommending our paper and thank you for your suggestions and those of the three reviewers. We greatly appreciate them and found them to be helpful for further improvement of the paper.

We have addressed the points and have expanded and clarified the suggested topics and sections of the text.

Regarding the comments made about some additional details regarding the projects discussed, we have inserted some clarifications where we thought these were essential, i.e., suggestions 3.c-d. For the others 3.a-b however, we feared that adding more details would distract from the main line of reasoning in the paper.

We have uploaded our revised version to the Zenodo preprint server (https://doi.org/10.5281/zenodo.10553141).

Best wishes,

Jitte Waagen and Gert Jan van Wijngaarden

Decision by Devi Taelman, posted 21 December 2023, validated 21 December 2023

Review "Understanding Archaeological Site Topography: 3D Archaeology of Archaeology"

Dear Dr Waagen and van Wijngaarden,

Thank you for sending PCI your manuscript for consideration: "Understanding Archaeological Site Topography: 3D Archaeology of Archaeology". I have now received reports from three readers, all three at the end of this letter. In light of these reports, I am writing to inform you to accept your article for publication, subject to specific revisions.Below is a summary of the reviewers' key comments and suggestions. You will see that readers point out some (though only a few) points that would benefit from more detailed discussion, which will help improve the overall quality and impact of your work.

Overall, the three readers are satisfied with your work and welcome your efforts to introduce some critical elements to the history of 3D photogrammetric recording in archaeological excavations. The paper is clear and well-written, and the title reflects the content of the article. One of the readers, however, suggests changing the abstract. In the current form, the abstract and the introduction are too similar.

Apart from some minor comments (which are detailed in the reviewers' reports), two elements would benefit from special attention. One of the reviewers asks for more detail on the history and earliest developments of 3D photogrammetric recording in archaeological excavations. The paper claims that this is a relatively recent development in archaeology. However, these techniques were already developed and applied in archaeology 20 years ago. In addition, it is suggested that certain terms and statements should be formulated more clearly and in more detail.

Considering these thoughtful comments and the suggested revisions will significantly improve the manuscript.

Kind regards

Devi Taelman

Reviewed by Geert Verhoeven, 04 December 2023

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Reviewed by Jesús García-Sánchez, 18 December 2023

The paper taps into a relevant question: the archaeological phases that took place within an archaeological site that, despite intrusiveness in the archaeological record, are part of the site's history. The problem presented by the paper is framed in archaeological sites such as Troy, which have been excavated during the last 150 years. Currently, we all acknowledge the biases of colonial archaeological or antiquarism. The authors show the possibilities to document these biases through 3D recording of historical digs.

The papers present the study case of Troy and offer the possibility to compare the research undertaken in other relevant sites. These sites will be published separately. However, the authors introduce some critical themes for discussion.

The intended paper describes concepts, methods and dissemination issues. The latter is crucial considering technical problems, such as the complexity of topographical modes, oversized and heavy datasets, or storage and archiving issues. However, many possibilities could lead to imaginative conclusions and innovative proposals.

The paper is well-written, the bibliography is correct, and both concepts, methods and conclusions align with the title and the abstract. I recommend publication.

Check the typo.

Page 3. Missing letter: Eponymous sitefCucuteni Culture (Romania)

Reviewed by Catherine Scott, 18 December 2023

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