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Towards New Futures for Archaeological Data Production: Challenging Archaeonormativity through Storytelling

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ABSTRACT

Archaeologists create vast amounts of specialized data, which are often difficult to access, maintain, and reuse, even for practitioners themselves. In this article, we explore the implication of professional practices of data production in fueling archaeonormativity—i.e., the naturalization of behaviors and structures in archaeology that strip it of affect and meaning and that deny human (and non-human) agency and equity. We contend that storytelling with archaeological data-making, grounded in a narrative hermeneutic model, has promise for subverting the current archaeonormative establishment. Via experimentation on the cross-European Transforming Data Reuse in Archaeology project, we discuss the challenges of intervening in excavation and post-excavation activities through storytelling, from siloing of results to epistemic anxieties to destabilization of trust, leadership, and institutional authority. Nurturing creative, "story-critical" risk-taking in the course of archaeological data production may enable archaeologists to improve their own working contexts whilst also (re)distributing power inside and outside the profession.

Introduction

Archaeological data-making practices are highly diverse, and the data themselves exceptionally shadowy (Wylie 2017)—incomplete and fragmentary, unstable and highly malleable. To manage such shadowiness, structures are applied to the data (and to archaeologists' published accounts of data production) which tend to progressively strip them of their complexity and nuance and thus narrow their capacity to fully represent the archaeological process and its many actors. Affect, sensuality, relationality, and agency are the first to be sacrificed, which not only impacts local communities and the resulting archives (e.g., Krmpotich and Somerville 2016) but also archaeological practitioners themselves, as their contributions are technified and their identities and power subsumed into a professional infrastructure whose beneficiaries are unclear (see Fredheim and Watson [2023, 15] for an account of the predicament in UK development-led archaeology).

The pervasiveness of the conditions described above, particularly in archaeological practice in the Global North, suggests that an archaeonormative establishment is in operation. Herein, behaviors and structures in archaeology are naturalized and reinforced that strip affect and meaning from everyday practice and that deny human (and non-human) agency and equity. Even as heterogeneity thrives across the discipline, so too do normative behaviors that privilege the familiar, the simplistic, the non-emotive, the delimited, and that cause significant harm to humans and the planet in the process.

This paradox is widely recognized as one of the many products of modernity/coloniality (Andreotti 2021). As Andreotti and colleagues (2021) put it, "Unlearning colonial habits of being while we depend on colonial structures and institutions for survival is a complex, multifaceted, life-long and life-wide practice that is inherently contradictory and offers no reassurances."

In this article, we venture towards the unlearning of archaeonormative habits via experimentation with storytelling in the context of conventional archaeological data-making practices. Our research is drawn from Transforming Data Reuse in Archaeology (TETRARCHs), a cross-European project dedicated to enriching archaeological data at all points in their lives for more wide-ranging and expressive reuse. One stream in our project seeks to understand both how we can intervene in everyday data production to generate more diverse and/or representative data and how we can support practitioners themselves in manifesting the personal (e.g., senses, moods, reminiscences, or guesswork) in data-making and data deposition. Our experiments in intervening in such practice—tampering with usual data collection and reporting methods to embed storytelling ontologies—represent what we see as hopeful attempts to create new futures for archaeology premised upon fertile, equitable, and just actions. Below, we outline our workflows for designing and implementing these interventions, as well as the challenges encountered when integrating them into the traditional excavation process. While not all experiments achieved the intended outcomes, we present the results of three key interventions—alternative finds labels, three-second sound clips,

and photo tagging. Each sought to record the everyday and personal moments of excavation life that often go undocumented yet show high storytelling potential. The numerous challenges we encountered in this process—ranging from logistical hurdles to conceptual resistance—form the basis of our broader reflections on the complexities of integrating more open storytelling and world-building methods into archaeological practice.

Although the majority of the authors of this article are affiliated via the TETRARCHs project, we represent a range of career stages (from Ph.D. researchers to established professionals and academics) and specialties (from digital heritage and metadata to field excavation and art) based in research institutions, museums, and development-led archaeological organizations across multiple European countries. Over many years, separately and together, we have innovated with methodologies or assessed the implications of innovation on contract archaeology, academic research, university-based teaching, community engagement, creative practice, and professional development. We each bring different perspectives on what archaeology is and does, and we endeavor to enable these perspectives to co-exist equitably without demanding conformity. TETRARCHs itself grows out of design justice-led approaches (e.g., Costanza-Chock 2020), aiming to nurture pluriversality (Escobar 2018) and to acknowledge and activate incommensurability rather than deny it (Srinivasan 2018, 227). We operate primarily in the Global North, and we acknowledge from the outset that a broader perspective would surely improve and extend our critiques. To take this work further, we stress the urgency of further collaboration with those who are most familiar with their local contexts.

Ultimately, this article seeks to address key gaps in scholarship around performances with rote archaeological methodologies and their links to inequities. We see our work as the first in archaeology to adopt a story-critical, narrative hermeneutical model (sensu Mäkelä and Meretoja 2022; Meretoja 2018; Meretoja, Kinnunen, and Kosonen 2022) as a response to inequitable professional practices. In this model, narratives are understood as existentially important "cultural practices of sense-making" that "are crucial to how we understand our possibilities in the world" (Meretoja, Kinnunen, and Kosonen 2022, 390–391). According to this thinking, human agency is mediated by narratives, and critical engagement with narratives opens up ethical spaces to navigate the range of relationships between people and planet in the past, present, and future. We argue that taking seriously storytelling's meaning-making possibilities in relation to basic data-making practices may enable archaeologists to improve their own working contexts whilst also (re)distributing "agentic power" (Meretoja, Kinnunen, and Kosonen 2022, 390) inside and outside the profession to those who might otherwise be ostracized, diminished, or entirely excluded from it. Our efforts complement other experiments in storying archaeology (after Pijpers 2021) but with a concern for understanding the structural change necessary to truly transform the discipline.

We begin by reviewing efforts to innovate with archaeological excavation and post-excavation practices, which are often premised upon a concern either to create efficiencies (financial, timesaving, etc.) or to break down disciplinary barriers and "democratize" investigations into—and narratives about—the past. Even as innovation proliferates,

however, the profession remains rife with inequity, arguably due to a tendency to dismantle only certain aspects of extant practice while holding others firm. Recognizing storytelling as a route towards change, we briefly discuss the current landscape of storytelling pursuits in archaeology, flagging their unequal application across different audiences, and their nebulous use by archaeological specialists as part of the primary research process. From here, we look at wider creative practices amongst professionals, setting the stage for our own activities on TETRARCHs and our fieldwork at the site of Toumba Serron (TS). We detail the storytelling research design at TS and describe our team and initial interventions. Confronted with relentless challenges, we highlight key themes that affected our outcomes and that recall persistent blockers to professional change documented by other archaeologists. We conclude with reflections on next steps for storytelling workflows and reiterate the potential of such initiatives not simply to affect archaeological interpretation but to create different conditions for practitioners and other communities to experience archaeology more richly, safely, and justly.

Innovation with Methods and Practice in Archaeology

Global archaeological methodology is extremely heterogeneous, with variation in almost every aspect of data collection. Locally, lineages of practice fossilize outdated methods. These lineages are broadly conceived as tied to nationality, such as Americanist, Australian, German, or the English Single Context methodology, or are part of regional patterns, such as using baskets and balks in the Levantine tradition (cf. discussion in Lucas 2001, 3–17; Carver 2011, 11–35). The convoluted colonial histories of the invention, maintenance, and perpetuation of excavation methods is understudied, but Leighton (2015) identifies differences in knowledge production and expertise on, e.g., British and American-Andeanist excavations. The legacies created by national and regional regimes can circumscribe innovation or shifts adopted from parallel traditions (cf. Watson 2019 and Sandoval 2021, 1–3, for a UK perspective). The change from a buckets-and-bulks understanding of archaeological stratigraphy to single context recording, for instance, can render archaeological data indecipherable to entire communities of practice and create a situation where decades of comparative data are no longer interoperable. Tendencies towards the skeuomorphic application of digital methods often reproduce these legacies (Taylor and Dell'Unto 2021) or add another series of recording requirements (Roosevelt et al. 2015) but occasionally shed light on existing recording strategies (Morgan et al. 2021). For example, ongoing research conducted by Leila Araar reveals no unified digital recording platform or strategy in the relatively controlled conditions of development-led archaeology in the UK, which operates under a general consensus of single-context archaeology with a mandate of digital deposition. Despite making headway over the last decade or so, digital archaeology still lacks interoperability, speed, and transparency (see Huggett 2012, 2015, 2020). Archaeological excavations that are conducted stratigraphically, recorded in expert detail, with extensive sampling and specialist examination of artifacts are sadly extremely rare, and excavations conducted with holistic interpretive potential in mind are almost non-

existent. Additionally, any experimental practice with archaeological recording is generally marginalized and subject to extreme pressure from the neoliberal demands of both academic and development-led archaeology. Watson (2021, 23), describing the situation in relation to contract archaeologists in the UK, writes "we have consistently proved ourselves to be conservative in method and practice, restrictive when thinking about true innovation, and exclusionary."

A growing cohort of professionals is calling out the failings of archaeology at large, questioning the discipline's future in the face of its implication in undermining human dignity, ecological integrity, and the capacity for the field to contribute to a more just and equitable world (e.g., Cook 2019; Flexner 2020; Parga Dans 2019; Wurst 2019). The options for reform or, better yet, for "post-archaeological alternatives" (Wurst 2021, 28) are generally vague (e.g., "more militancy, more networking … ;" Gnecco 2018, 290) or dismissed or ignored—and, where they exist, they may assume there is no associated need to rethink basic methods. Such assumptions are fueled by a tendency to "black box," or leave unspoken the methods, assuming they are "common sense" (Leighton 2015). As Leighton (2015, 67) notes, when differences in methodology are broached, the associated conversation is often not a positive one. In other words, differences tend to be viewed with a "negative value judgement" in spite of the fact that there is no end to variations in practice. So even as archaeologists seek alternatives to the status quo, arguably the most unrelenting (yet motley) features of this status quo—rote methodologies—hold firm.

While such contradictions may seem a wellspring for despair, they also suggest a capacity for differences to thrive in synchronicity in archaeology and indicate there is ample space for methods to be overhauled or meaningfully distended. Here we see community-led and counter practices driving forward wider efforts at change, drawing in divergent people, places, and ways of thinking and doing (e.g., see Kiddey 2020). Working across different audiences and locations brings with it the potential to realize complexity and openness, and storytelling is often employed in these contexts as a facilitation tool. Its success, however, for complicating the past, connecting individuals, and disrupting the status quo is open for debate.

Storytelling in Archaeology and Heritage

Storytelling in archaeology and heritage has a long history, with archaeologists deploying diverse media to convey elements of the past for well over a century (Perry 2018). However, storytelling as a specific technique of practice in archaeology gained greater popularity among scholars during the 1970s and 1980s, coinciding with the rise of post-processual approaches. Of particular importance, Deetz (1977) wrote six short fictional narratives for the opening of *In Small Things Forgotten*, paving the way for archaeologists to be creative storytellers.

Storytelling in these contexts has been defined in multiple, sometimes contrasting, ways. According to Praetzellis (2019), archaeologists are inherently creative and imaginative, inspired by their engagement with multiple aspects of archaeological research. Nelson (2003) highlights that archaeologists have always used storytelling to interpret and explain their findings. Praetzellis (1998) encourages

archaeologists to occasionally tell stories, even if others doubt their authenticity or rigor. On the same note, Gibb (2000) reports a division between archaeological storytelling and archaeological reporting, with the latter being considered more "scientific." Herein we see the positivistic tendency of some archaeologists coming to the fore via assumptions that storytelling may be incompatible with science. This has also been noted by Praetzellis (1998), who points out that academics tend to disparage archaeological storytelling. A long discussion on the different definitions of and approaches to archaeological storytelling can be found in Sampatakou (2025).

According to Praetzellis (2014, 5135), archaeological stories are created by archaeologists with the purpose of communicating archaeological research. These narratives may take various forms, from written or printed texts to multimedia and digital formats, but they are created by archaeologists themselves and usually used to communicate archaeological research to unspecified audiences. Despite the many possibilities, storytelling endeavors in archaeology appear predominantly to be focused outwards—concerned to impact or draw in broader audiences outside of the archaeological community. What it means to systematically integrate specific forms of storytelling into archaeological specialist activities —e.g., into everyday field or lab practices or into primary data recording tools (recording sheets, finds labels, etc.) or workflows—remains underexplored. Wickham-Jones (2019, 38) supports that archaeological storytelling helps identify gaps in archaeological knowledge, making it possible to explore different possibilities and aspects of the past. Grima (2017, 76) also notes that storytelling and narratives can be used to understand and contextualize archaeological data from fieldwork. Yet, the actual deployment of storytelling methodologies as part of **primary** data recording is rare and tends instead to be reserved for the interpretative phases of research as part of efforts to manifest different perspectives on the past. One exception is the deployment of video in the form of "direct testimonials" by archaeologists working on-site, which Morgan (2014, 332) describes as a niche genre of media storytelling in field archaeology. Gill, McKenzie, and Lightfoot's (2019) experiments with literary approaches between creative writers and bioarchaeologists working on histories of enslaved people offer further insight into how to go beyond simply narrating new interpretations of the past. Their collaboration takes place **post**-data-collection, yet their findings point to the promise of narrative activities in forcing attention on how different professionals engage with each other and with their research in the present.

Ongoing studies by one of our co-authors, Clough, consider the role of commercialization in compartmentalizing the archaeological workflow, and subsequently storytelling. Focused within the English developer-funded sector, her research indicates a degree of functional restriction between roles and specialisms that inhibits opportunities to cross-pollinate ideas or nurture storytelling beyond a relatively small set of dedicated individuals tasked with interpretation and synthesis. This compartmentalization is mirrored in the structure and format of reporting strategies, which isolate and append specialist information. Meanwhile, story-rich records are consistently "tidied up" to conform to perceived standards, meaning that lively narratives, details, and side notes may simply not make it into published or public

reports. The overall effect is one of restraint, or perhaps even inhibition.

While Clough's study is based in the archaeological contract sector, our own experiences (per below) suggest her findings are mirrored in academic research contexts. Creative practice in archaeology has an exhaustive history, and so storytelling methods seem, on the surface, as though they should fit easily within the professional toolkit. Why do we continue to struggle with their integration?

The Intersections of Creativity and Professionalism

Creative interventions have long been part of archaeological discourse, where the entanglement between art and archaeology is perhaps the most documented (e.g., Moser 2019; Renfrew 2006; Russell and Cochrane 2014). For example, Bailey uses the lens of art practice to provoke archaeologists to think in "eclectic and disruptive ways" (2014, 236), to seek and enjoy non-explanatory and non-representational approaches that free archaeologists from authoritative posturing. Politopoulos, Mol, and Lammes (2023, 1–2) call for making play and fun one of the central pillars in archaeology, relating fun to "care, commitment and attention." They suggest that "the challenge in finding the fun archaeologically is identifying the fun things that could be grounds for play and finding out the ways people could make playgrounds out of them … " (2023, 4). One manifestation of such a "playful methodology" is "playful mapping," a form of cartographic performance with a track record of being attentive to combinations of emotional, tactile, visual, olfactory, kinesthetic, and auditory qualities of places, which are difficult to come by through traditional "scientific maps" (Hacıgüzeller 2017, 157–158).

The search for playfulness and fun while creating archaeology is arguably framed by growing conceptual (and ethical) commitments to, for example, heart-centered practice (Supernant et al. 2020), effective archaeology (Stahl 2020), radical archaeology (wherein social and emotional outcomes are valued as much as research outcomes) (Hearne 2019), proximate knowledge (Mickel 2020), and enchantment (Perry 2019). Overall, these developments may be characterized as the furthering of the creative turn in archaeology, a call to explore disciplinary boundaries (Thomas et al. 2017)—or indeed to dismantle them—through practice-based research. Morgan (2022) elaborates on this point with reference to digital archaeological remediation. She notes that methods are an integral and iterative aspect of the result, and she situates archaeological methods more broadly within practice-based research. Herein, the playful, poetic, multisensorial experimentation with research processes disrupts the linear trajectories of narrow research questions and opens up domains for creative, joyful, empathetic, and emotive archaeological investigations.

Yet those pursuing such disruption keep confronting an enduring tension between academic professionalism, especially as it is exercised through patriarchal discourses of European and North American traditions, and creativity. Apprehensions about creativity in academia largely rely on a problematic traditional opposition between scientific creativity and other types of creativities (e.g., artistic creativity), with the latter being something that academic professionalism cannot relate to in a constructive way (see Simonton 1988; also Bailey 2014). Søndergaard (2005, 197) observes through interviews with 18 academics in five Danish universities that when it comes to "doing academic" (as in "doing gender," after West and Zimmerman 1987), creativity that goes beyond the "grey and rigid practice of interaction among academic men" is performed by young women "during their PhD studies or early in their assistant professorships. Later, it doesn't pass as appropriate."

Against this background, a practice-based approach requires us to pay attention to language-centered and other discourses of scientific creativity in archaeology in order to witness the associated boundary work that sets conditions for performing/doing such creativity. Although detailed research on the issue is needed for the specific case of archaeology, as noted by Søndergaard (2005), the boundary work of "doing academic" within European and North American traditions (here we might also add "doing professional" for practitioners working in development-led or other archaeological contexts), which is closely related to "doing scientific creativity," is gendered and involves patriarchal scientific seriousness as a norm that (pre-)consciously avoids humor, care, fun, and play. Beyond gender, we can expect other culturally intelligible and intersecting subject positions (e.g., based on age, ethnicity, race, sexuality, membership of communities, etc.) to inter-affect the ways in which boundaries of scientific creativity, and more generally, personhoods of "culturally viable" professionals, are performed in archaeology (also Søndergaard 2005, 190–191).

Once attention is paid to such boundary work in practice, the primary questions are not only what is taking place and where it is taking place, but also who are the actors? That is, what are the boundaries of creativity in professional archaeological knowledge production for different subject positions based on gender, age, ethnicity, etc., in various geographies? Who can risk being creative at the stage of archaeological data production during professional fieldwork (and other knowledge-related processes) in a way that contests dominant boundaries (also see Cook 2019)? Taking the Çatalhöyük Research Project as an example, artists were consistently engaged with the archaeological project, contributing visual and interpretative insights that were supposed to enrich the narrative of excavation. From inception, the project had a strong interest in various representations of the site and its archaeology (Hodder 2000, 129–166). However, despite many collaborations over the project lifecycle, review of the periodically updated methodologies presented in the project's excavation volumes (Farid, Hodder, and Lukas 2022, 27–44; Hodder, Cessford, and Farid 2007, 3–24; Hodder and Farid 2014, 35–52) suggests that their influence on the core methodological frameworks of the project remained marginal, as the scientific priorities of the project tended to overshadow these more creative interventions.

Building on the successes and failures of such earlier experiences, in TETRARCHs we intentionally aim to take new risks that transgress archaeonormativity within the context of archaeological data production and other practices associated with archaeological epistemologies and ontologies. In doing so, we aim to put the relatively powerful positions of some project members—who are employed in some of the richer and more influential countries in Europe, such as Great Britain, Belgium, and Sweden, and face limited or no precarity—to good *affect* in terms of "political ethic" (after Hamilakis 2007, 16). A concrete objective for the
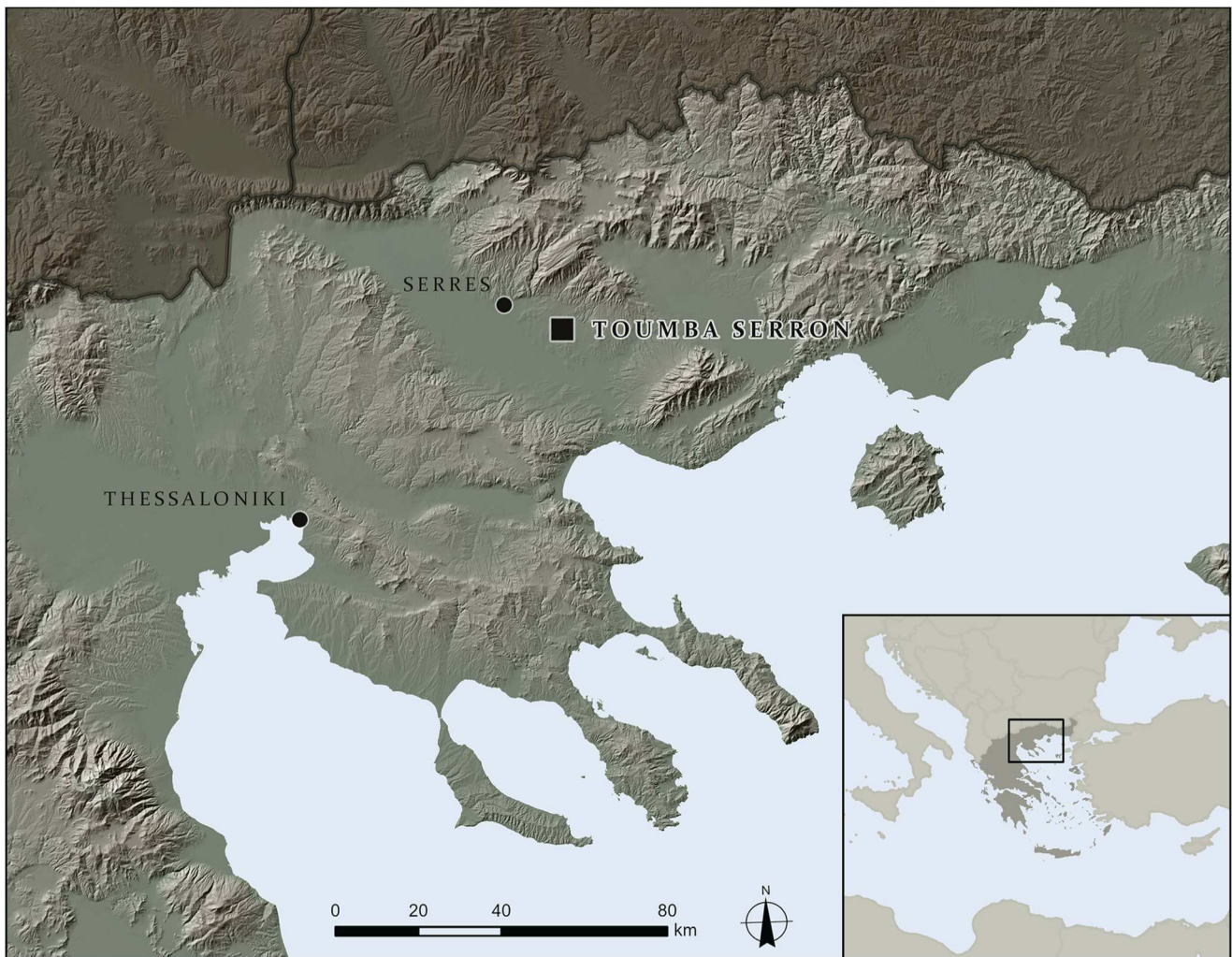
Figure 1. Map of Toumba Serron within its Strymon Valley environment. Map by Helen Goodchild, reproduced with permission and created using Copernicus data and information funded by the European Union—EU-DEM layers; boundary layers from geodata.gov.gr; made with Natural Earth.

TETRARCHs team has been to embed forms of media (including metadata) within the archaeological archive, which can be relatively easily enacted at the post-fieldwork stage to facilitate creative and playful storytelling. Our hope is that these embeddings will generate new qualities for archaeological fieldwork and archival records beyond common classifications such as "scientific," "objective," "non-scientific," and "subjective." Our assumption has been that play invites play, creativity invites creativity, and storytelling invites storytelling. If this assumption holds true, media embedded in archives intended to facilitate creative, representative, and playful storytelling would best be generated through creative, representative, and playful storytelling practices during fieldwork. By observing future re-formations of this media in reuse contexts, we can then reflect on whether our assumption is correct.

TETRARCHs: Storytelling Interventions at Toumba Serron

TETRARCHs is a three-year cross-European project funded alongside 25 other initiatives in the Transformations: Social and Cultural Dynamics in the Digital Age program of Collaboration of Humanities and Social Sciences in Europe. Broadly speaking, the project seeks to demonstrate that data optimized for ethical and emotive storytelling can connect heritage practitioners and diverse cross-European audiences. In archaeology, it is now relatively well understood how data can be made Findable, Accessible, and Interoperable (per the FAIR principles), but considerable work is still necessary to understand whether, and by whom, these data are Reusable—and with what effects. The TETRARCHs team, an interdisciplinary group of archaeological specialists, data scientists, creative residents, and museum practitioners, collaborate across more than a dozen European institutions and a half-dozen archaeological sites. Together, we aim to create new archaeological workflows and revise existing workflows to foreground equitable and just forms of data reuse and storytelling while also embedding change in the archival stewarding of digital repositories.

Our ambitions are explored through different case studies, including the Toumba Serron Research Project (TSRP) in Greece and its excavations of a site with complex archaeological stratigraphy (Figure 1). TSRP entails an international collaboration between Greece, Taiwan, and the UK, implemented via the British School at Athens (BSA), with digital experimentation at its core but still needing to balance the legal documentation requirements associated with archaeological interventions in Greece. The site of Toumba Serron (Τούμπα Σερρών) is a virtually pristine prehistoric site in the heart of the Strymon valley about 100 km

northeast of Thessaloniki, northern Greece. As a potential type site for the region which had never been subject to prior investigation, operating in both English and Greek, with a range of complex stakeholders (e.g., local farming communities, a nearby village, and Greek curatorial authorities, as well as the research community linked to the BSA and the TSRP), the project has been well placed to experiment with digital methods without the prior assumptions and constraints of existing legacy data or the sociohistorical hierarchies rooted in earlier archaeological interventions. The project has also been open to artistic collaboration from inception. As a project already implementing a range of digital technologies and digitally- and artistically-informed methodologies designed by, and under the supervision of, TETRARCHs' partners, the TSRP was deemed an ideal venue for TETRARCHs' experimentation. Accordingly, in 2024, a team from TETRARCHs (comprising about a dozen people) joined the wider TS team (including seven students and eight others).

Research questions and design

The research design for TETRARCHs' interventions at TSRP was born of findings from a series of earlier storytelling experiments conducted between spring 2023 and summer 2024, aimed both at developing a TETRARCHs storytelling data model and at exploring storytelling habits across different audiences. Detailed in depth in a forthcoming paper by Simandiraki-Grimshaw and Perry, more than 100 individuals were facilitated over seven sessions in tagging and narrating stories about archaeological photographs from excavations of a site in central London (MOLA 2017). Participants were **not** provided with any formal definition of "storytelling;" instead—informed by a narrative hermeneutical approach (after Meretoja 2018)—they were asked to interpret, write, and/or perform their stories as they saw fit, based on a series of prompts (e.g., tag this photo with your instinctive reactions; arrange as many or as few photos as you like into a story of your choice). Data from these experiments were categorized by Simandiraki-Grimshaw according to participant group—whether archaeological specialist (n = 31, a majority working in contract archaeology at MOLA), creative specialist (n = 19), or school child (n = 51). The results were then coded manually according to: 1) emerging themes from the photos and from the researchers' lived experiences; 2) commonly-known storytelling conventions (e.g., suspense or deception); and, 3) transitions between images and ideas ("gutters," following McCloud 1993, 70–74). Coding was also informed by recent interdisciplinary work around the sensations (e.g., Lisena et al. 2022; van Erp et al. 2023) and affect (e.g., Canning 2018) of heritage. The resulting codes were synced with those created by co-author Aida Fadioui as part of distinct storytelling experiments with other audiences.

Our coding evidenced overt differences in how people tell stories and in the photographic content they draw upon to narrate those stories. Of significance, archaeological specialists' storytelling habits were notably more constrained than others', even as the specialists almost unanimously endorsed the possibilities. Recognizing, then, that storytelling may be a means to cultivate a more abundant and equitable archaeology both for practitioners themselves and for wider communities, we devised a series of practice-based and storytelling-based research questions (RQs) to test in various field and lab contexts. Two of these became the focus of our first test case at TS: 1) How can we build (and what are the impacts of building) workflows that support practitioners in gathering more diverse data with maximum reuse potential? 2) How can archaeological practitioners and data managers be better supported to make "the personal" more findable and accessible in data repositories?

As our storytelling experiments were ongoing whilst planning for fieldwork in Greece, we outlined a rough methodology in early 2024, which was then refined over a period of six months prior to—and in the first days of—the 2024 field season at TS. Taylor mapped the project's typical workflow, and Perry noted potential storytelling intervention points (Figure 2). Four were identified based on a combination of 1) the richness of the existing data being generated, 2) the ease with which storytelling interventions might be integrated into people's practice, 3) their high potential for conversion into metadata (i.e., being captured as metadata), and 4) the prospect for contributing new, previously untested insights to the community working at the intersections of creative and professional practice in archaeology (see above). For instance, we made a conspicuous decision not to interfere with the existing context sheet, in part because it is perhaps the most obvious intervention point (e.g., Chadwick 2003; Perry and Morgan 2015), and it represents only one node in an ecosystem that arguably requires multiple points of simultaneous interference (or total destruction) to see systemic change. Importantly, in conversation with the TSRP leads, even small edits to key tools such as the context sheet were likely to prove problematic for the team (see more below).

With the workflow mapped, we sought to distribute the interventions across on-site data acquisition and lab-based analysis, specifically targeting drone acquisition, finds labeling, on-site photography, and 3D model post-processing. Each aimed to expand upon insights from previous TETRARCHs experiments, which flagged various storytelling concepts or domains for testing in the field. For instance, our storytelling codes suggested that more photographic (and arguably other) data which foreground sensations, moods, personal memories, pop culture references, and imagination might yield greater reuse in the future. Similarly, based on analysis of the narrative techniques applied in our previous work, data which suggest humor, action, suspense, or speculation may help to facilitate future storytelling. Moreover, our analyses of storytelling habits with photos indicate the importance of data which explicitly feature humans, landscapes or vistas, textures or contrasting aesthetics, moment-to-moment changes (e.g., multiple shots zooming in, on, or out of a feature; documentation of subtle changes in someone's expression), and scene-to-scene changes (e.g., images that, when juxtaposed, imply major shifts in place or time). Hereafter we refer to these codes as storytelling-inspired concepts—or SICs (Figure 3).

We shared these insights with two of TETRARCHs' creative residents, Eloise Moody and Chloé Dierckx, at an approximately two hour long brainstorming session in TS held towards the start of the 2024 field season (Figure 4). The session was recorded by hand and attended by the residents, plus a half-dozen members of the TETRARCHs and TS teams. Akin to brainstorming opportunities held as part of previous TETRARCHs experiments with specialist
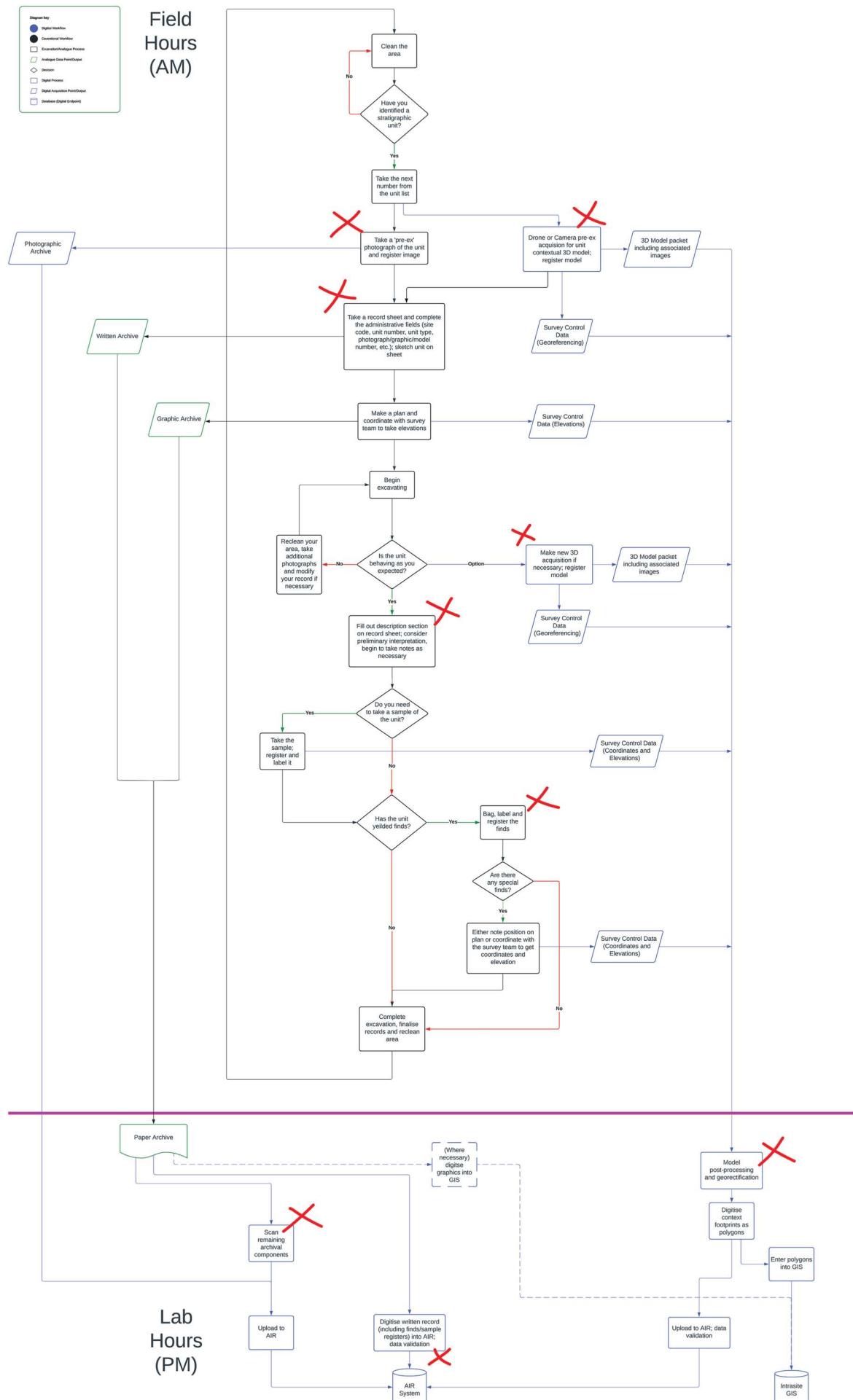
Figure 2. Toumba Serron archaeological workflow, distinguishing digital and analogue processes and outputs. Red 'x's indicate storytelling intervention points initially identified as high potential. Image by James Taylor, annotated by Sara Perry.
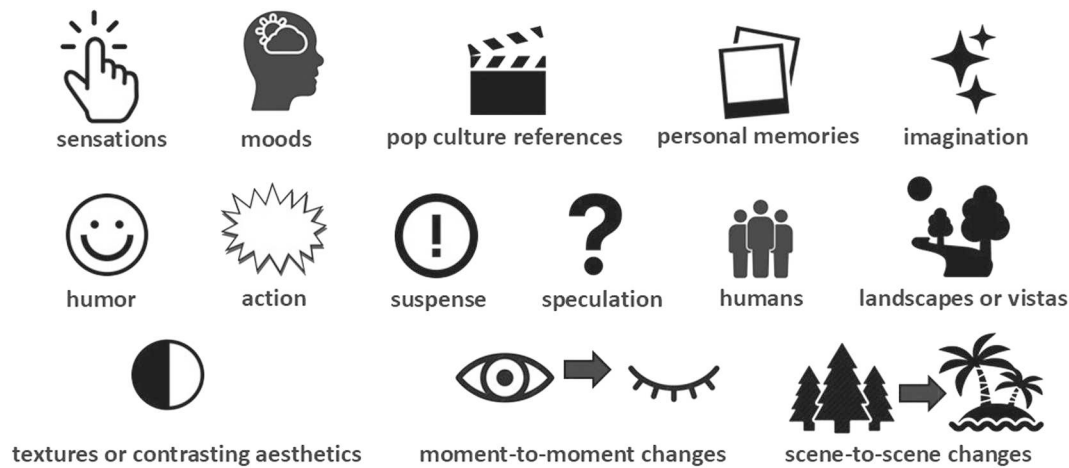
Figure 3. Storytelling-inspired concepts. Image by Anna Simandiraki-Grimshaw.

participants, an abundance of propositions for inserting storytelling or SICs into usual TS practice were broached. Much of the focus centered upon alternative forms or methods of description, growing out of artistic examples offered by Moody (e.g., asking individuals to describe color without using language related to colors) (Table 1).

In discussions between Taylor and Perry, however, it quickly became clear that many of the proposed interventions were unlikely to be adopted. Prior to arriving at TS, we had prioritized community activities; this left little time to co-design field interventions with all members of the TSRP ahead of the season. On the ground at TS, further time constraints—plus financial constraints—limited the field season to just two weeks. The interventions themselves ultimately required adjustments to the TSRP's primary record-keeping systems, adding complexity and potential risks—e.g., some felt such unconventional methods might inadvertently compromise the project's alignment with the expectations of heritage authorities. Intense heat during fieldwork—exacerbated by a local heatwave—further shortened working hours and limited some team members' capacity to engage with more experimental or creative approaches. Moreover, in conversation with the wider TS team, it became evident that various types of data gathering that resonated with our SICs were already transpiring on-site (e.g., playful forms of drone capture and photography). However, these data were not findable nor accessible to some team members (let alone wider audiences), nor were

Figure 4. Some of the team brainstorming during fieldwork at Toumba Serron, July 2024. From left to right: Aida Fadioui, Sara Perry, James Taylor, Holly Wright, Anna Simandiraki-Grimshaw, Despoina Sampatakou, Chloé Dierckx, and Eloise Moody. Photo by Leila Araar, reproduced with permission.

Table 1. Storytelling-inspired concepts and associated interventions proposed for implementation at TS (select examples only).

Storytelling Concept	Proposed Intervention (select examples)
Alternative languages	Describe using **only** non-literal terms.
Omission	Avoid the completion of certain sections of reports or forms.
Exquisite corpse	Add to someone's written or pictorial description with your own, where the other's description is not visible. Pass to someone else to do the same.
Pop culture credits	E.g., describe the soundtrack that complements the find or feature. Describe the first line of the novel that sets the tone for the trench.
Sonic chorus	Record specific types of sounds (e.g., joy, frustration) in the field to articulate moods or to create archaeological choirs (e.g., choirs of enchantment, of frustration).
The unliked	Complete only the "worst" sections of paperwork.
The felt but unseen	Describe the find or feature with eyes closed, using other senses beyond sight.

workflows in place to nurture the creation of such data as a part of everyday professional practice. Faced with these challenges, we progressed with a least-risk approach, focused on simple sound documentation and alternative finds labels, accompanied by a long-planned personal photo-tagging activity led by Foket and Fadioui (see Table 2 for a description of each).

Alternative finds labels

In the case of alternative finds labels (Figure 5), for simplicity, these were designed to sit beside the standard finds labels (as opposed to being integrated into existing labels), which inevitably affected the possibility for them to be taken seriously as genuine complements to existing interpretative approaches. We collected several dozen such labels and initiated discussions around how to incorporate them into the site's metadata to support their reuse. Unlike our other interventions, we also tested the approach with a local school group. However, the wider implications of such work await further testing and analysis in our 2025 fieldwork. Preliminary feedback from the team was encouraging, with some speaking of the pleasure it brought them and others noting that they often performed such playful descriptions "in their head" (implying that this was already a familiar practice). In other words, alternative labels do appear

to have some promise for supporting practitioners in gathering more diverse data (RQ1) and in offering simple means to easily draw out more personal reflections or SICs (RQ2). The labels could be incorporated as a novel fieldwork practice in the future, offering wider communities the opportunity to input directly into archaeological data-making.

Three-second sound clips

In the case of our three-second sound clips (Figure 6), due to concerns from some of the TS team about how audio capture might affect the typical workflow, we sought to limit negative impacts by encouraging only two team members (Foket and Perry) to concertedly gather clips. These ranged from noises of the local environment (e.g., crickets chirping or dogs barking) to the sound of the deployment of different tools (e.g., drone, hammer, shovel, and air conditioner) to the expressions of people (e.g., good mornings, Greek music playing on site, and interpretations of contexts). At the same time, we were aware of the technical requirements that such clips demanded of the existing digital recording system; hence, Derudas invested significant effort in designing means to accommodate the new content. Implementation forms for audio (and video) media were designed for the Omeka-S-based platform AIR, which is used as the main documentation tool in the TS project (Derudas, Nurra, and Svensson 2023). The implementation form asked the user to visualize and link all the content to which the sound clip could be related: excavation areas, 3D models, and contexts. Sound clips could also be related to persons participating in the project, who are identified within AIR. The clip could be created by uploading a file, providing a link to online content, or describing it.

Given the backend development needed for accommodating the sound clips, plus the limited amount of audio-recording that took place, we can only reflect superficially upon the impacts of this intervention. The media files are not yet connected to the database records, meaning that, whilst it seems possible to make these data more accessible (RQ2), significant testing is required to understand their utility for different audiences. As regards the effects of the clips on diversifying the types of data being collected on-site (RQ1), preliminary reflections from the two team members who created recordings indicate that they forced

Table 2. Description of storytelling-inspired experiments carried out at Toumba Serron.

Intervention	When and who does it?	What?	Why?
Alternative Finds Labels	Finds washing, all team members Data entry, all team members	Using blank alternative label forms, write a playful description of the find without using literal descriptive terms. E.g., This potsherd looks like a green-dyed tortilla chip.	To draw attention to artifacts, especially those that may otherwise seem mundane or impenetrable. To foster storytelling habits among practitioners during routine (group or solo) activities. To nurture and encourage levity in repetitive activities through purposeful storytelling.
Three-second sound clips	At any time, all team members	Using your mobile phone or tablet, create a brief voice or audio clip of some aspect of your context. The clip could include sounds from the trench, soundtracks playing in your mind, noises from the landscape, sounds of tools, exclamations from people around, noises captured at the moment of discovery, etc.	To enrich 3D models at the point of post-processing, moving them beyond recording devices to explore their wider storytelling potential. To encourage and normalize non-sight-based data gathering.
Personal photo tagging	At any time, all team members	Using an Omeka S platform accessible on mobile devices through a QR code, upload one or several pictures you took today (on-site, at the lab, or any other time and place) that you feel comfortable sharing. Let us know what prompted you to take this picture and tag it with 2–5 keywords or phrases: these could be about what you felt, the atmosphere, what's in the picture, etc.	To collect more spontaneous data, i.e. without prompting. To create more diverse data in order to tell stories that represent a fuller range of archaeological experience. To enable and distribute agency to others beyond site supervisors in the archaeological meaning-making process.

Figure 5. Imaginative results prompted by alternative labels: A) a sample of responses by excavation members—the Greek entry on the top right reads "it looks like a giant's fingernail;" B) teenagers labeling a figurine fragment; C) the figurine fragment; and, D) teenager's response to the fragment: "slide for dolls." Photo B) by Aida Fadioui, all others by Anna Simandiraki-Grimshaw. Permission to reproduce C) courtesy of James Taylor and Dimitra Malamidou.

Figure 6. Implementation form for audio media. Screenshot by Paola Derudas.

attention on aspects of TS that might otherwise have gone unheard and that listening back to the clips conjured up the fuller soundscape of the site, reminding them of noises that were distinct to their TS experiences. Such listening back also flagged where sounds were missing—e.g., fleeting moments like surprises, laughter, confusion, interruptions, or corrections made by team leads to the work of new excavators.

At the same time, both team members who recorded clips separately acknowledged that they sometimes attempted to hide their recording efforts from others around them (not in the sense of covert recording but in terms of minimizing the act of recording in order to draw as little attention as possible). Their acts of hiding related to feelings of being exposed or embarrassed and to a sense that the recordings may have caused stress or confusion to those in supervisorial

Figure 7. Example of a photo and its description/tags. Screenshot by Lise Foket.

roles who were already juggling time constraints, different skillsets, and conflicting interpretative perspectives. While we endeavored to prepare the entire TS team to engage with TETRARCHs' experiments, in the case of the sound clips, small jokes about the intervention were also made by some on-site, which led the recorders to feel overly self-conscious. Taken together, responses from those around us unfortunately undermined our wider efforts at creative data gathering via sound.

Personal photo tagging

The most developed of our storytelling interventions built on existing practices of on-site photo-taking by archaeologists using their own phones, primarily for personal use. In previous TS excavations, these personal images were shared informally on cloud-based storage without metadata, making it difficult to link them to other data from the excavation or to source permissions or otherwise ready them to be made accessible outside of the immediate team. As part of TETRARCHs, an Omeka S instance was developed for photo collection, capitalizing on the platform's ability to manage diverse content while offering a user-friendly interface and an associated public-facing web display. Omeka S shares the same infrastructure as the AIR system, making it interoperable with existing workflows. The accessibility of the platform on mobile devices through a QR code further lowered the barrier for team members to engage.
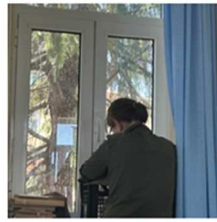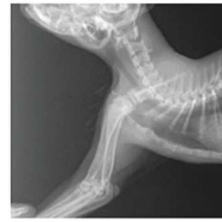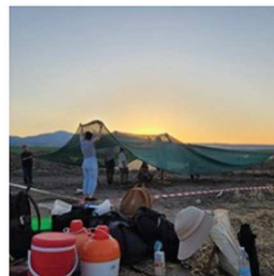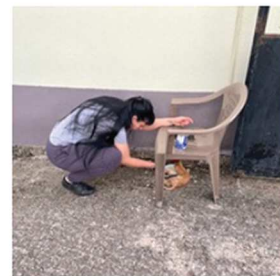
Figure 8. Omeka web output of tagged photo uploads representing the theme of care. Screenshot by Lise Foket.

The TS team were encouraged to submit their photos through the platform on a daily basis, tagging them with up to five keywords and elaborating them with information on why they took each photograph. A collection of 62 images was created over a period of two weeks, evidencing (per RQ1) the capacity for such efforts to diversify data in ways that resonate with SICs (Figure 7). Analysis of the photos demonstrated equal representation of on-site, lab, and off-site images, as well as engagement with three major themes (determined by Foket through coding of keywords and associated information supplied by users through Omeka): **care**, including moments of self-care, care for other team members, and care for the excavation site and its artifacts; **labor**, including collaborative work during excavation, moments of learning and watching, of excavating, and of cleaning and categorizing artifacts; and, **leisure**, including nature shots taken during leisurely walks, team dinners, etc.

Further manual coding of user-supplied keywords and content about the photos by Fadioui on NVivo indicated many personal tags and annotations represented active verbs as well as stative ones (describing a condition or state of being). These were often used in describing working conditions, as well as the environment in which participants operate. Expressions containing affective language, in addition to feelings and emotions of all kinds, represented another large part of the tags and were found in relation to both the environment and the working conditions but also the people and objects pictured. Our preliminary analysis seems to confirm certain trends and patterns observed in other experiments led by the TETRARCHs team, namely the importance of data relating to feelings, emotions, environment, and human actions in characterizing the archaeological experience.

Although we had meaningful engagement from some of the TS team with this intervention, there is significant work to do to understand how we can better support practitioners in making this personal data more findable and accessible (RQ2). While approximately five people submitted photos daily, most stopped regular photo uploads as the excavation progressed. The demands of traditional fieldwork took precedence, and the intervention was unfortunately not considered part of everyday professional practice. It is also possible that we left the brief too open: if team members were offered slightly more structure or direction around their photo-taking activities, it might have facilitated more regular or purposeful engagement. The Omeka instance was generally simple and user friendly, and its web output compelling for succinctly communicating key themes (Figures 8, 9). However, a systematic assessment of the quality of the interface is required, something we could not conduct on-site due to the many cognitive and time demands that we were already placing on the team. Finally, this intervention challenged sensitive boundaries between personal photography and the official archaeological record and more generally reflects the ongoing issues around the use of personal digital devices on archaeological sites. Much like controversies around archaeological site diaries capturing the "personal"
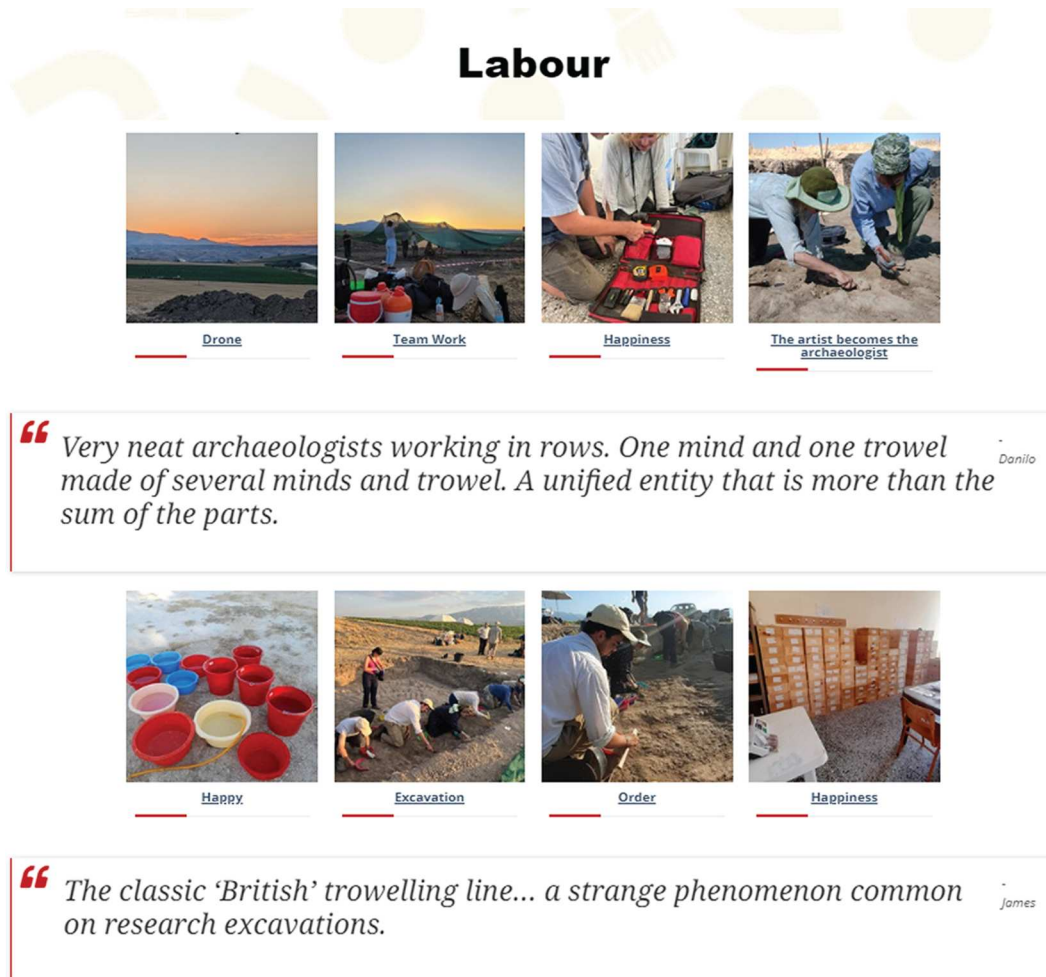
Figure 9. Omeka web output of tagged photo uploads representing the theme of labor. Screenshot by Lise Foket.

side of the excavation, creating media can be a highly revealing process that the creator would not necessarily like to be added to a research project or archive.

Most importantly, the intent of this intervention (and of TETRARCHs more widely) is to create archaeological data that can be more fully and actively reused by different audiences, especially in contexts of storytelling. The variety of imagery submitted suggests that when practitioners are given the freedom to capture and tag what resonates with them, their contributions naturally lean toward storytelling and more emotive forms of representation. However, whether the data will **actually** be reused—and in what ways/for what purposes—remains to be determined. In the next phase of TETRARCHs, the feasibility of our storytelling data model (derived from our coding of themes from these interventions at TS, as well as in the UK, Belgium, and Sweden) will be tested in workshops with archaeologists, creatives, museum professionals, and their institutional partners. Moreover, how the data themselves are made available to different audiences (including archaeologists), both through existing data repositories and bespoke means tailored to communities, is the focus of specific work now being led by co-authors Wright and Foket, respectively.

Storytelling as a Challenge to Archaeonormativity: Barriers to Change

Ultimately, it is impossible for us to claim that our storytelling interventions significantly affected the archaeological

process at TS or meaningfully affected the archaeological specialists who participated. We progressed, however, in responding to RQ1 and RQ2, and we are positioned to advance the research more fully in 2025. As noted, factors such as time, heat, and financial constraints affected our outcomes, but several of our interventions also encountered deeper-seated challenges. Below, we reflect on systemic concerns that impinged upon our efforts and that may be helping to foster an archaeonormative state where inequity and unsustainability can thrive in archaeology.

Unintegrated creative data

As described above, archaeological practitioners are regularly collecting playful and story-rich data in different forms. However, many of these data cannot yet reach the official site archive (as at TS), and as others have noted (e.g., see Batist et al. 2021), relevant metadata are often not created, preventing these records from being archived. Per Gibson's (2021, 215) reflections in relation to the omission of dig diaries from the Heathrow Terminal 5 archives, "If these conflicting, competing and personal stories had been carried through to the final publication, they would have dramatically transformed its colour and texture … the question is why exactly this more democratic narrative was not included."

At TS, the data were not included in the archive for various reasons: they may not have been considered relevant; they did not yet have the required permissions for

circulation; and, until Foket and Fadioui created the Omeka S instance, they could not easily be integrated into the existing documentation system. Elsewhere, lack of archive integration might be due to insufficient time or resources; or, as seen in the UK development-led sector, data may be "deselected" for archive deposition due to various factors, such as the General Data Protection Regulation, which mandates the elimination of many personal data based on various conditions. This includes photos picturing humans if informed consent for long-term preservation and dissemination has not been obtained. Yet the omission of these data, by archaeologists' own admissions, disempowers and devalues practitioners' contributions. It misrepresents the nature of archaeology and helps to fuel persistent myths of disciplinary objectivity.

Perhaps less obvious, but more worrisome from the perspective of equity, in storing these data on private or personal drives, archaeological practitioners separate the relatable, multi-perspectival dimensions of the discipline from the archive and from other people. We acknowledge sensitivities surrounding creative practice, particularly working within the vicissitudes of neoliberalism. We also recognize that the ceding of personal media and observations in the service of others' financial or research agendas is fraught and must be handled with care. However, these concerns must be balanced with an awareness that in splitting out or removing creative data, we deny the full spectrum of narrative agency to the archaeological record and affected communities (sensu Meretoja, Kinnunen, and Kosonen 2022). This spectrum includes **narrative awareness** (i.e., awareness that we each narrate according to our own perspectives and that "each story can be told differently–from someone else's perspective, interpreted by someone else" [Meretoja, Kinnunen, and Kosonen 2022, 392]), **narrative imagination** (i.e., the sense that "things could be otherwise," as well as the capacity to engage in existential forms of questioning [Meretoja, Kinnunen, and Kosonen 2022, 392–393]), and **narrative dialogicality** (i.e., the ability to develop in dialogue with others and to generate "new narrative *in-betweens*" where we conceive of different forms of relationship with others [Meretoja, Kinnunen, and Kosonen 2022, 393, emphasis in original]).

Epistemic anxieties

Previous TETRARCHs experiments (amongst other research —see above) testify to the struggle that archaeologists and associated specialists experience in balancing a sense of propriety and professional expectation with creativity and imagination. Our analyses suggest these epistemic anxieties may be irreconcilable for some and hence are often managed by creating distinct archives which separate the creative (which are effectively "personal" records) from the "professional." The former then become inaccessible to anyone outside the team (and, in fact, may be inaccessible within the team itself due to permissions, platforms, etc.). Our experiences, therefore, mirror the predicament described above where "doing professional" and "doing creative" (or "doing storytelling") are demarcated.

The compounding effects of such separation further entrench the idea that creatively-inspired work in archaeology is unprofessional. Additionally, as discussed, narrative agency is denied to all potential users of archaeological data. The implications of such diminishment and

boundary-work may not become fully evident until confronted with challenging circumstances or certain development-led archaeology contexts. In these settings, those who do take risks are often subject to "exclusionary structures, abuse, and trauma" (Cook 2019, 399), and those who do not may be left alienated, disillusioned, and disempowered (e.g., Weekes et al. 2019). *How* communities local to—or most affected by—the archaeology benefit amidst these epistemic navigations is often left unspoken.

Interpersonal and institutional trust

Various practitioners have commented upon the relationship between authority-oriented boundary-work and trust (e.g., Alonso González 2016). Mickel and Byrd's (2022) historical review highlights the role of both interpersonal and institutional trust in constituting (and maintaining) the discipline of archaeology. Interpersonal trust entails people's "moral" belief in others, based on character, familiarity, or education, while institutional trust entails belief in wider systems, such as peer review, ethical or methodological protocols, or the reputation of the organizations underwriting the research (2022, 6–7, 17). While the TETRARCHs team had arguably built up significant interpersonal trust through years of collaboration, including via engaging in explicit activities with a moral dimension—i.e., defining values for the TETRARCHs project (2025)—such trust may not have extended across the wider TS team; indeed, several of us had only just met one another while on-site in 2024.

Possible lack of cross-team trust was surely compounded by the nature of the research itself, grounded in risk-taking to destabilize normative practice. Per Mickel and Byrd (2022, 17, 22), institutional trust is often propped up by forms of policing and surveillance (including via the completion of proforma) to ensure conformity and scientific credibility. Our storytelling interventions interfered with most practices that might otherwise have been trusted. We were engaged in undermining extant professional strategies and in pushing the boundaries on what might be embraced as "accurate" archaeological practice. This was difficult work, and we did not sufficiently prepare the full team through concerted attention to interpersonal trust-building. Importantly, Alonso González (2016, 498) makes clear that epistemic authority grows with the creation of "networks of cooperation based on trust." To invest in trust-building exercises focused on creative risk-taking could have had benefits not only for TSRP but also for destabilizing archaeonormative behaviors at large—enabling wider communities to engage more meaningfully with archaeology and archaeologists.

Leadership

Those in leadership roles in archaeology fundamentally shape not only professional workflows but also cultures of excavation and post-excavation. Batist and colleagues (2021) comment explicitly on this dynamic in relation to two digitally-engaged projects where the leads' sensibilities about archaeological fieldwork differed and, in so doing, affected team practices overall. Yet, leadership roles in archaeology are both assumed and generally unremarked upon. Guillermo Diaz de Liaño's emerging research (part of UKRI n.d.) indicates no empirical studies of leadership

styles in archaeology have yet been conducted. Where references to leadership exist, they may be fleeting, conflate management with leadership, or fail to provide meaningful insight or depth around present-day leadership competencies or outcomes. Parga Dans' (2019) important review of the collapse of commercial archaeology in Spain attributes it to five factors, including a lack of training and capabilities among those overseeing archaeological organizations. As she notes, this predicament is mirrored in other parts of the world (2019, 114).

In the context of academic archaeology, modes of funding may contribute to the nonexistent discourse on leadership: a project director secures monies, organizes the team and the work, and then leads publication of the site. Though quotidian anarchisms within archaeology flourish, few projects have been able to circumvent site hierarchies, even those most explicitly engaged with community practice or empowering students (Eddisford and Morgan 2018). Arguably, the fossilization of methods is itself an artifact of these hierarchical structures within archaeology, as those in subordinate roles adhere to unquestioned approaches.

Although a successful model for non-hierarchical organization of archaeological work has yet to emerge, it may revolve around the project director playing the part of a careful host: catering to the needs of participants, fostering a community of care within the project, and meeting and honoring participants within their individual subject authority. Herein, leaders train and empower individuals such that the leaders themselves become superfluous to the process. For the various reasons discussed here, at TS, the directors acting as hosts were over-stretched. Yet the host is critical in contexts where practitioners want to employ experimental methods—i.e., where leaders must move beyond merely permitting creativity, towards willing playfulness and acceptance of subject authority outside of their own (inclusive of storytelling). Unfortunately, such openness often encounters resistance as alternate goals tied to care of site participants, funding, archaeological research questions, etc., exert pressure on leaders (cf. Caraher's [2019] critique of these industrialized pressures and his promulgation of slow and care-full archaeology in response). As the TSRP was also a training excavation, learning outcomes tied to established pedagogical programs may have further complicated leadership expectations.

Structural constraints

Space, as theorized by Lefebvre (1991) as a social construct and Massey (2005) as a dynamic and relational phenomenon, is crucial to creative and experimental practice and other forms of risk-taking. At TS, this included physical space where the interventions could be pursued, cognitive space where individuals felt able to intellectually engage, and emotional space where people were supported to grapple with associated challenges (e.g., trust and epistemic anxiety). It also involved myriad other types of space—e.g., space in the technical infrastructure to integrate the new digital data. Finding such space is an ongoing challenge, regardless of the funding or management models under which one works—e.g., state-led, development-led, or research-led—and structural constraints are inevitably at fault. Some such constraints are authoritarian, as discussed above. Others are financial, such as a lack of funding or differing funding priorities. Others are temporal (i.e., no allocated time, prioritization of certain dependencies, or rapid pacing of project rhythms due to time pressures). Still others might be geographic (i.e., no dedicated physical space, limited access/egress, remote placement of sites/travel time, or climatic conditions like extreme heat or rain) or political (e.g., conflicting local, regional, and state agendas).

Compounding the predicament are overarching "abstract narratives" that normalize professional archaeology as a form of heritage protection. These narratives are reinforced not only at the national level but also globally through institutions like UNESCO. They provide "a sense of legitimacy by showing that things [are] being done properly and according to international norms and standards developed by academic and professional archaeologists themselves" (Parga Dans and Alonso González 2021, 457). Fredheim and Watson (2023) evince how abstract narratives also prop up recent claims about the "public benefit" of archaeology, even as specific and sustained benefits for those most affected (e.g., those that live or work on or near the sites of our practice) are unclear. The danger of these various intersecting structures is that they can reduce us to an immobilized state which, as observed in Parga Dans and Alonso González's analysis of heritage management in Spain, manifests in an "inability to use the cognitive capacities of human capital to solve significant problems affecting the whole organization" (2021, 451).

Creative practice within archaeology has often happened despite structural inhibitions and can manifest for some as joyful resistance. However, to enable it to thrive beyond one-off interventions—or to enroll it in solving significant problems affecting the whole—it demands the creation of space and capacity both in archaeology's general research designs and infrastructures as well as in deep-rooted, often-unspoken, everyday actions. Recognizing that the codification of creativity can be counter-productive, we may choose to follow the model of Caraher (2019), where support and slack are built in for team members to do what they may, rather than enact creativity on demand. Our TETRARCHs experiments suggest storytelling, following agentic and story-critical models (e.g., Mäkelä and Meretoja 2022; Meretoja, Kinnunen, and Kosonen 2022), may also offer purposeful and familiar means to explore the boundaries of the profession and the relationships of storytellers to one another and the wider world (past, present, and future). At TS, we only scratched the surface of what might be possible.

Conclusions: Designing for Systemic Change

In line with Glatz and colleagues (2024, 74), who foreground the importance of "locally driven ways of envisaging an engaged and creative archaeology as cultural heritage method," TETRARCHs aims to operate contextually, via sustained dialogue with local stakeholders, attentive to the responsibilities that arise when international researchers operate within diverse postcolonial and geopolitical contexts. These efforts require considerable long-term commitment and capacity to navigate complexities that go far beyond archaeonormative toolkits. Extant toolkits tend to prioritize universalist discourses (which typically posit cultural heritage as a global good, which can marginalize local voices), rescue paradigms (which frame external intervention as a

necessary salvation rather than a collaborative process), and technocracy (wherein remote monitoring and technical fixes are emphasized above context-sensitive practices). The TSRP offered us an environment in which to explore what systemic change to archaeological data-making entails. And storytelling provided us with a mechanism to elaborate our normative toolkit in ways we anticipated could be equally productive for archaeological specialists *and* wider communities. However, while some of the groundwork and conditions for successful experimentation were in place, the level of implementation hoped for was not possible in practice. Going forward, how will we—and how might others wish to—respond?

Our interventions were inspired by a design justice approach, which "centers people who are normally marginalized by design, and uses collaborative, creative practices to address the deepest challenges our communities face" (Design Justice Network 2018). Yet not all of the TETRARCHs team, nor the wider TSRP, were familiar with design justice principles, and we did not allocate sufficient time or infrastructure to realize them in the context of TS. Moreover, we did not fully consider how existing creative data-making practices could be enrolled in these efforts, nor how a host model of leadership could be enacted on-site to support this work. The context of design is also important, and our findings from previous TETRARCHs experiments indicate that workplace-based design can constrain imaginative possibilities. In other words, to do creative work in archaeonormative spaces (i.e., in the offices, labs, classrooms, archives, or field sites where archaeology usually transpires) can leave people devoid of ideas or nervous to entertain more radical options (cf. Morgan and Eddisford 2015). Mixing up the spaces in which we conceive of and perform storytelling, and iterating this work, would better align with design justice principles and perhaps spark unexpected alternatives.

At once, such work can—and, in the spirit of pluriversality (Escobar 2018), should—sit productively alongside creative activities in typical spaces, e.g., informal conversations over routinized tasks. In discussing a potential 3D reconstruction of the site while at TS, Morgan alongside Leila Araar, Nicolas Zorzin, and Benjamin Dyson conducted a "worldbuilding" exercise over pot washing, with contributions from undergraduates and other site participants. Here, they discussed daily and seasonal rounds on-site, the remains of buildings and artifacts, those dwelling in the buildings, and what kinds of textures and other media would need to be collected to do this visualization. These conversations continued on-site during excavation and led to the decision to excavate a potential structure more fully, in plan, to aid visualization. Such practice was integrated into the rhythms that already infused archaeological research, meeting archaeologists and creatives where they were at and within their own authority.

Yet, while creative design within archaeological communities is important, following design justice principles, it must also include those directly affected by the outcomes of the archaeology (e.g., those local to the site). Previous TETRARCHs research demonstrates that archaeological specialists recognize the archaeonormative constraints that come with designing with their own colleagues: "Similar thinking due to similar working background," per one practitioner in our UK experiments. Others from these experiments explicitly called for opportunities to work with wider communities: "I know that if I had been paired with a creative, child, or someone from a totally different sector it would have been easier to make imaginative leaps or take more risks." Whilst we used findings from previous storytelling sessions with children and creative specialists to inform our methodology at TS, and we experimented with such audiences at TS itself, there was not sufficient capacity to integrate the latter into TS's data-making practices nor to facilitate co-design sessions between the TS team and local Greek audiences speaking the Greek language. As we prepare for further experimentation, co-design across **mixed** professional and local communities needs to be prioritized.

Importantly, although such co-design can be guided by a narrative hermeneutic model, at TS we feel we did not sufficiently familiarize the team with this model, nor with its potential to foreground the design justice principle of "center[ing] the voices of those who are directly impacted by the outcomes of the design process" (Design Justice Network 2018). Storytelling is often conceived in extremes—i.e., following Meretoja, Kinnunen, and Kosonen (2022, 388), as "inherently harmful or beneficial"—even if it manifests instinctively and may be integral to sense-making and agentic power among humans. Our previous TETRARCHs experiments, alongside significant anecdotal feedback from colleagues in different contexts, suggest that archaeologists may struggle to reconcile these extremes and may be skeptical of the seeming ubiquity of storytelling today (cf. Mäkelä and Meretoja 2022, 210). But a story-critical approach can support all actors (not just archaeological practitioners themselves) both in articulating narratives and then in ethically evaluating their outcomes. In the future, we may wish to grapple with the latter more systematically, which, per Meretoja (2018) and Mäkelä and Meretoja (2022), entails exploration of how our stories could ultimately affect understandings of what is possible, of the self and wider cultures, of other individuals' experiences, of perspective-taking/awareness and the "in-between," and of morality. We also acknowledge that storytelling is just one means of disrupting archaeonormativity and that narratives alone cannot fully enable the unlearning of modernity/coloniality (after Andreotti et al. 2021). They do, however, offer a way into systemic change.

This story-work will inevitably lead towards uncomfortable questions about whether archaeological data-making should take place at all. Here we recall Fredheim and Watson's (2023, 63) proposition about "taking seriously the possibility that archaeologists may not currently be best placed to work in ways that accrue benefits to broader demographics," and Fitzpatrick's (2024) multiple appeals for practitioners to act in response to the many harms that we continue to perpetrate against archaeologists themselves and the wider world. In attempting to unlearn archaeonormative habits, we are forced to engage with the unpleasant, the unclear, and the vulnerable and threatening (after Andreotti et al. 2021). The writing of this article itself has been challenging, as we have attempted to navigate and respect ways of being and practicing that arise from our different positionalities. As one example, we do not all necessarily feel at ease with the concept of "archaeonormativity," especially in a discipline that is ostensibly highly heterogeneous. At once, some of our interventions had to be diminished to avoid disrupting expected (normative)

outputs. Negotiating these paradoxes requires cognitive, affective, and motivational orientations (Andreotti et al. 2021) that themselves may have to be learned—e.g., "developing stamina to engage with difficult issues and conversations without relationships falling apart" or "developing capacity to face and embrace … internal contradictions without becoming irritated, overwhelmed, anxious or depressed." We acknowledge that our interventions are partial and ongoing and must be part of a larger program of creative exploration in archaeology. We believe that new futures for archaeology depend upon experimentation with these creative orientations as much as with methodological interventions with data production. An equitable and sustainable archaeology demands it.

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