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The stories in this account link together Nabataean idols, carbonized brains, winged lions, Neolithic pregnancies, figurines, obsidian daggers, Roman coins, and beads. These stories draw into view heavy buckets full of soil and the splintering wooden handles of picks used to loosen cobbles and compacted earth. They hint at connections between the answers to questions about the origins of settled life, the construction strategies for monumental religious buildings, the dietary and subsistence practices of societies who lived 9,000 years ago, and the reasons why impressive ancient sites and structures were destroyed and abandoned.

The stories come from two groups of archaeological experts who have participated in research projects for decades handling artifacts, sorting out stratigraphy, and engaging in critical interpretive conversations. Both groups are made up of people who possess comprehensive, detailed expertise about all of these objects and ideas; people who, despite this expertise, have never documented their archaeological knowledge of these objects and topics.

The two groups come from the local communities at Petra, Jordan, and Çatalhöyük, Turkey—two archaeological sites separated by more than 520 miles and five millennia. Petra, located in what is now southern Jordan, was the capital city of the Nabataean kingdom, which flourished primarily between the fourth century BCE and AD 106, when it was annexed by the Roman Empire.[1] Çatalhöyük, in southern Anatolia, was a

Neolithic and Chalcolithic settlement from about 7400 BCE to 5600 BCE.[2] In terms of their locations, time periods, and archaeological assemblages, these sites have little in common.

They have both, however, been excavated for more than 50 years. Picks and shovels have churned through the earth at both sites nearly constantly, throughout dramatic transformations in the discipline of archaeology. So much has changed in archaeologists' research questions, methodologies, tools, and knowledge production practices since the summer of 1961 when two archaeological projects—coincidentally—began: one at Çatalhöyük and one in Petra. Through all this change, local community members from these two sites were employed to hold picks and shovels, to push wheelbarrows, to sift the excavated soil and pull out sherds of pottery or shards of glass.

In this book I ask: What effect have those 50 years of change in archaeological practice had on the role local community members at these two sites played in the archaeological research process?

I ask: *Have they had any effect at all?*

This was not the initial question I had in mind when I began my research in 2011. At that time, my goal was to build on the work of others who had pointed out a long-standing problem in archaeology wherein local laborers dig but do not document (Berggren and Hodder 2003; McAnany and Rowe 2015; Steele 2005). I wanted to provide evidence that information had been lost as a result of this arrangement—to show that site workers in archaeology possess knowledge about the archaeological past and excavation strategy that disappears as projects end or as these people pass away. I went to Çatalhöyük and Petra to accomplish this because of their long histories of excavation and because this loss of knowledge was particularly urgent at these two sites.

When I began this project, for instance, only two elderly men from Küçükköy, the small village next to Çatalhöyük, still survived who had worked on excavations there in the 1960s. Beyond their memories, there is no way of ascertaining what site workers did, saw, or knew about the excavations at Çatalhöyük during this time period, since James Mellaart (1967), the archaeologist, does not mention them outside of four names in the acknowledgments in his monograph. Between 1961 and 1963 when he dug at Çatalhöyük, he hired dozens of men from Küçükköy and Beycesultan, another nearby town, but their names and contributions are almost entirely absent from his publications on his excavations.

This is certainly unjust. It is, at the same time, not unusual for the era. Mid-twentieth-century archaeology, especially in the Middle East but also elsewhere, was characterized by hierarchical and militaristic excavation

strategies. During this time period, archaeologists hired enormous work-forces to move massive volumes of earth as quickly as possible for wages that were as low as possible. These resident laborers' work was character-ized as unskilled manual labor, so site workers' names—let alone their con-tributions—were rarely recorded. Philip C. Hammond, who began dig-ging in Petra in 1961, exemplified these practices. His first archaeological excavation involved removing 4,500 m^3 of sand (the equivalent of nearly two full Olympic-size swimming pools) out of the amphitheatre in Petra. He hired so many men from the local Bedouin community that it only took a few months in total for them to complete this monumental project (Hammond 1965).

Hammond (1996) continued to excavate in Petra for the next 44 years, hir-ing between 20 and 40 workers each season. I estimate that over the course of Hammond's 44 years of excavations, more than 300 Jordanian men resid-ing in the area worked for him, as well as a few women who did the cleaning and laundry and sometimes the cooking for the project. Despite this turn-over in workforce, Hammond employed only two foremen across nearly a half-century—first a man named Abu Shahir, who has since passed away, and later, Dachlallah Qublan al-Faqir.

Each year, when Hammond and his team of student archaeologists arrived at Petra, he would tell the foreman how many workers he needed on the proj-ect. The foreman was then given latitude in terms of who to hire. According to Dachlallah, he made the decisions based on "who needed the work." He said in an interview, "You have all these people who say 'I want to work. I want to work.' Some from the Ammarin, some from Bedul, some from Sayyidin, some from Wadi Musa [different tribes and communities in the Petra area]. I mean, all of the people ask and ask. So I take some from here, some from here, some from here. Just the good ones."

It is apparent, though, after searching for Hammond's former workers throughout the Petra area, that both Dachlallah and Abu Shahir showed a strong preference for hiring members of their families. One woman who washed pottery for Hammond's project, for example, said in an interview that she "only worked on this excavation because Abu Shahir wanted to hire his family." Like Mellaart and other contemporary archaeologists, Hammond did not systematically record the names of the workers anywhere.

Once hired, the local diggers would stand in a line so Hammond could assess them and make assignments to specific trenches. From there, both the student excavator supervising that trench and the foreman were responsible for keeping track of workers' arrival times each day and the quality of their

work. The students' field notebooks represented my main initial lead for finding Hammond's former workers, since they noted the first names or nicknames of workers who arrived late, who failed to follow directions, or whose work was especially impressive. One of the most experienced students, who went on to earn his PhD while working on the project, was placed in charge of the payroll for the project, giving out the weekly salary. According to the former participants in Hammond's project, they were paid less than 1 Jordanian dinar (JD)[3] for a day of work in the early years of the project, eventually raised to 10 JD per day (the national minimum wage for archaeological work) by the end of the project in 2005. The workers could be fired at any time by the foreman or by Hammond because they showed up late, took too many breaks, had been drinking alcohol, behaved in an overly familiarly way with women members of the project, and, as I will show, for asking too many questions or challenging excavation methodology.

These early archaeological projects at Petra and Çatalhöyük epitomize the distanced relationships that existed between foreign archaeologists and local workers in the Middle East through the mid-twentieth century. Workers were not considered crucial participants in the scholarly work of archaeology. Their work was characterized as bodily, not brainy. This belief in the separation of manual and intellectual work, of unskilled versus skilled labor in archaeology, created the crisis I sought to illustrate ethnographically: that after 50 years of excavations, two communities of archaeological experts had developed who were never fully involved in the production of archaeological knowledge about the past. I wanted to show that this represented a loss to science and history.

I believed this would be uniquely possible to do at Petra and Çatalhöyük because of the current community archaeology projects at both sites. While there are many sites in the Middle East and around the world that have been excavated for 50 years or longer, there are not as many that have been involved in the recent turn toward public engagement in archaeology. Since the early 1990s, archaeologists worldwide have increasingly recognized the importance of engaging stakeholder groups in all dimensions of the archaeological process, including intellectual and decision-making activities. Archaeologists working in contexts around the globe have developed public education programs, supported tourism initiatives, and worked to involve local and descendant communities in setting research goals and plans (Atalay 2012; Colwell-Chanthaphonh and Ferguson 2008; Merriman 2002, 2004; Silliman 2008; Stottman 2010). Public and community archaeology has emerged as an identifiable subfield of archaeology, which has influenced the broader discipline to become more

aware of the political impact of archaeological work and how it affects descendant groups, resident communities, and other stakeholder populations.

This disciplinary shift transformed excavation practice at both Petra and Çatalhöyük. Philip Hammond concluded his research in Petra in 2005, having excavated the Temple of the Winged Lions for decades, and in 2009 a new archaeological project started at the site when Christopher A. Tuttle formed the Temple of the Winged Lions Cultural Resource Management initiative (TWLCRM). The emphases of TWLCRM were thorough documentation, responsible conservation, and local community involvement in every step of the process (Tuttle 2013). TWLCRM created a core team of five local community members from the Bedouin village of Umm Sayhoun in Jordan who held supervisory roles over the excavation, conservation, and documentation of the site. TWLCRM also hired larger teams of local community members for a few weeks at a time, rotating the members of this team to include and train as many people from the area as possible. Each iteration of the larger teams was designed to include members from a mix of tribes and families and prioritized giving employment opportunities to families in need. They sought as well to hire and train women in archaeological skills for the first time in Petra. TWLCRM is an example of the movement toward an archaeology that promotes community participation instead of the traditional relations between archaeologists and local communities.

This same shift began somewhat earlier at Çatalhöyük, where excavations were renewed in 1993. During this time, Ian Hodder's Çatalhöyük Research Project (ÇRP) established itself as a site for progressive methodologies—in terms of adaptable and democratized recording, integration of computerized technologies, sampling strategies, and community involvement (Atalay 2010, 2012; Bartu 2000; Berggren et al. 2015; Hodder 2000). Instead of a colossal army of a local labor force, ÇRP each year hired a group of five to fifteen site workers from the local village of Kücükköy, approximately 1.2 km away from the Neolithic mound. The strategy for hiring, too, differed from earlier projects in the region.

In the earliest years of the project, Hodder attempted the model of asking a foreman to hire laborers but quickly recognized that only members of the foreman's family were receiving work opportunities. Hodder then hired a different foreman and made it an explicit priority to offer employment to individuals from multiple different families. Over the years, the project re-hired those who had worked on the project in the past, allowing these individuals to build on their previous training and take on jobs with increased responsibility. Hodder (2000) also deliberately hired women, a decision that elicited

vehement resistance at first from the conservative and patriarchal local community but which Hodder has defended as essential to engaging and uplifting the local community as a whole, not just the men. Indeed, the Çatalhöyük model of recruiting and employing women for archaeological work was an inspiration for the TWLCRM's decision to do the same.

Instead of setting a daily wage in advance or adhering strictly to the national standard, project leadership and workers together negotiated the workers' salary at Çatalhöyük. These negotiations also included the terms of employment, such as normal working hours and agreements around Ramadan and Bayram,[4] when religious and familial obligations conflicted with work expectations. Furthermore, to engage locally hired individuals and their communities in the project's activities, ÇRP brought on social anthropologists who met with residents of nearby towns to discuss what Çatalhöyük meant to them and ultimately had a team dedicated to Community-Based Participatory Research (Atalay 2010; Bartu 2000; Shankland 1999a, 1999b; see chapter 1).

My goal of seeking and engaging community members' expertise therefore aligned with the broader inclusive priorities of the contemporary excavations at these two sites. Not only would I be able to build on the positive relationships the new projects had developed with local communities, but I also saw an opportunity to collaborate with the project directors on altering excavation practice so that local expertise would be invited and included—resulting, I hoped, in more diverse, complex, and nuanced knowledge about the past.

In 2011, I joined the Çatalhöyük project as an excavator, and in 2012, I became the TWLCRM project anthropologist. In both roles, I participated in onsite digging and conservation work, which allowed me to not only observe but also experience the organization of these teams, their methods, and the crystallization of ideas into facts as information moved through the archaeological project. I worked at each site for two to three months every summer until 2016, in addition to living in Petra for a complete year in 2014–2015. During this time, I lived at the houses affiliated with the archaeological projects. Each workday, I would go to the excavations at each site and work with the locally hired laborers. At Çatalhöyük, I directed excavations, both supervising and working with site workers to set up our equipment, dig, sieve, sort artifacts, and clean up at the end of the day. Throughout these activities, I spoke with workers about their thoughts and interpretations of the remains being uncovered. On the TWLCRM project, local team members led the excavation work, and my onsite role was much more documentary in nature. I photographed the work as it proceeded but also participated in sieving, pottery washing, artifact sorting, labeling, and tent raising. I attended weekly team meetings and

participated in all team-related events, including celebrations of work progress and visits to the site by local schoolchildren and students from Amman.

In total, I spent approximately 12 full months at Çatalhöyük and 14 months in Petra. Dedicating this amount of time to living in each research location is a rarity in archaeology, which tends to involve short-term, periodic engagements. Archaeologists infrequently gain emic insight into the heterogeneity of the communities among whom we live and work. The sustained nature of my fieldwork meant that I experienced the interacting, sometimes competing scales of society and watched communities fracture and come together in often surprising ways. I was in Turkey, for instance, as nationalist sentiment escalated, affecting foreign-led archaeological projects and everyday life even in small villages like Küçükköy, just outside Çatalhöyük. I experienced this at the level of state policy, when in my final season of fieldwork I was barred from entering Küçükköy or conducting any more interviews. I also experienced these changes at a local level: during one field season, as tens of thousands of protestors speaking out against Erdoğan's leadership were being teargassed by Turkish police in Istanbul 750 km away, in our area police had to step in to protect protestors from the incensed, stick-wielding groups of Erdoğan and Adalet ve Kalkınma Partisi (AKP) supporters who outnumbered the protestors (Burch 2013).

I was in Petra when the Jordanian government cracked down on a long-term money laundering scheme, with drastic financial repercussions for families across southern Jordan as hundreds of vehicles, numerous flocks of sheep and goats, and nearly $60 million were seized (JT 2016). The communities living around Petra, in response, shut down the gates of Petra and the surrounding highways. I watched as these tribes and families—who most often emphasize their differences (Bille 2012; Kooring and Simms 1996; Russell 1993)—came together to collectively claim power over this archaeological site and use it as leverage to make (ultimately unsuccessful) demands for the return of their property. The timing of my research, in terms of both length and moment, put me in a position to recognize that communities who identify at times as collectives may disassociate under different circumstances and might coalesce under others, motivated by issues related to both economy and cultural heritage.

Partly on this basis, I spent my time forging deep relationships with both local community members and archaeologists, a process that made clear how diverse these groups are. Primarily on weekends and during evenings, I went to the homes and workplaces of current and former workers from the two sites to interview them about their expertise in archaeology. I interviewed

them in their own languages, unless they requested otherwise (some men in Petra in particular are fluent in English from working in the tourism industry).[5] The site workers I grew to know included men of all ages, from those whose toddlers sat in my lap during our conversation to the grandfathers who offered me armfuls of apricots, harvested from the orchards they had spent their lives cultivating. I even spent time with a few women who had worked at these sites, hired for highly specific tasks like washing pottery, cooking, doing laundry, and sorting residue. These individuals possessed different nationalities, kin affiliations, socioeconomic backgrounds, marital statuses, gender identities, and education levels, as well as experience in archaeological work. Some had worked for decades in archaeology; others, only a few seasons. Some had carried out only the physical work of earth moving, while others had taken on more specialized tasks.

Despite these differences, across both contexts, these diverse former site workers seemed to agree on one thing: they had no expertise in archaeology.

This book explains how this is possible—not that locally hired laborers lack expertise in archaeology (on the contrary, the longest chapter is dedicated to demonstrating the expertise they *do* have) but rather that they would make the decision to maintain that they lack expertise. I define "expertise" broadly, to refer to the full range of specialized knowledge and skills—explicitly stated and tacitly embodied—locally hired laborers have developed in archaeology by virtue of their long-term participation in excavation and which supports the production of knowledge about the human past. Defining and searching for this flexible concept of expertise, I thought, would allow me to demonstrate the hidden forms of expertise site workers possess. I wanted to be able to demonstrate to fellow archaeologists that for generations we have dug alongside site workers whose insights and abilities have escaped our view but would be legible to our community once pointed out.

I approached this project anticipating that site workers would argue that they had access to privileged information and had perfected methodologies previous archaeological project directors had never recognized. I was a member of the projects employing them, after all, and my stated goal was to collaborate with project directors to shift the excavation design. If anything, I thought site workers might even exaggerate their knowledge and skill set in hopes of getting a wage increase or a preferred job. But I kept encountering just the opposite. Whether I asked about classic forms of archaeological expertise, like identifying forms of pottery, or more amorphous and alternative forms, like listening to the sound of the soil against a spade, the site workers explicitly denied having any such expertise.

This finding begins to make sense in the context of the development of archaeology in the Middle East, which I analyze in chapter 1. I focus on the 200-year history of labor management on excavations in the Middle East, and I illustrate what has changed in archaeological labor management strategies and, most crucially, what has not. Recognizing the degree to which the colonial and economic origins of Middle Eastern archaeological practice continue to inform how we excavate today is the first essential insight to understand why career archaeological site workers routinely choose to claim a lack of knowledge about the excavation process.

The historical review in chapter 1 contextualizes the accounts of the site workers and excavators from the projects under study and lays the groundwork for understanding what about the experience and structure of archaeological projects in the Middle East is region-specific. I also situate archaeology as a scientific practice, with similarities between excavation and laboratory labor. I therefore look to science studies for theoretical and methodological approaches that can offer analytical purchase on the links between labor and knowledge production practices in archaeology—and vice versa.

Chapter 2 then establishes that site workers' claims of a lack of expertise do not represent the knowledge and skills they actually do possess. In this chapter, I use Hammond's excavations in Petra (1963–2005) as a window into earlier approaches to labor management and Hodder's excavations at Çatalhöyük (1993–2018) as a window into labor management after the recent turn toward community engagement. These two projects serve as representative case studies of disparate priorities, programs, and paradigms for the labor relations in place in archaeological research settings. Viewing them side by side allows for a comparison of how divergent strategies for scientific labor management impact site workers' ability to develop expertise and participate in knowledge production on an excavation.

To examine site workers' experiences and expertise, I compare the memories they shared during our conversations to the archival materials from each of these projects, showing the ways the records both corroborate and complement each other. I use social network analysis to make a quantitative and visual comparison between the site archives and the oral histories of site workers and to illustrate that the knowledge site workers possess is structural, not anecdotal. This analysis reveals that site workers on projects both before and after the shift toward community engagement in archaeology developed measurable insights into archaeological finds and methods. Even though these projects were managed according to contrasting principles and priorities and even though educating and training local excavation participants is a stated

goal of community-oriented projects like TWLCRM and ÇRP, locally hired laborers working were learning about the research process and site assemblages before the implementation of such community engagement strategies.

Does this mean that earlier projects weren't as exclusive as they have been characterized by proponents of public archaeology? Or does it mean that community engagement efforts have not been as transformational from an educational standpoint as one might hope?

Chapter 3 addresses these possibilities. I demonstrate that despite their extensive knowledge of archaeological assemblages and methods, locally hired laborers across the sites and contexts lack insight into the interpretations of the findings from the projects on which they have worked. I identify a number of long-standing barriers that continue to prevent local laborers on many archaeological projects from acquiring knowledge about interpretation and analysis in archaeology, even on projects that emphasize public engagement. I argue that these barriers block the transfer of ideas in both directions, preventing archaeologists from benefiting from the archaeological expertise site workers possess. Many of these barriers stem from the ways archaeological excavations have been organized and run since the beginning of the discipline. These are inherited stoppages with colonial origins that community archaeology has not yet sufficiently addressed, which prevent locally hired laborers from gaining insight into the analytical processes and outcomes of archaeological research.

But site workers habitually deny knowledge not just of research questions and conclusions. In fact, they very often deny knowing anything about artifacts or methodologies that they have already described in detail.

I argue that this is because the disciplinary legacies outlined in chapter 1 go far beyond the inherited barriers named in chapter 3 that limit site workers' access to participating in the analysis of archaeological assemblages. Specifically, the underlying labor structures in Middle Eastern archaeology—regardless of whether community engagement is a priority—have not transformed even as so much else has changed in the discipline. The ways archaeologists have made decisions about hiring and firing local workforces have not been overturned through community archaeology. Instead, opportunities for paid work have consistently been made available for excavation workers who downplay their scientific knowledge, emphasizing instead their traditionalism and simplicity. I call this phenomenon "lucrative non-knowledge," and it is the subject of chapter 4.

I then ask what about lucrative non-knowledge can be identified in archaeological contexts outside the Middle East, which may lack the specific colonial and Orientalist origins but still retain the predominance of foreign-led

archaeological projects. In chapter 5, I examine the piecemeal ethnographic and historical literature on archaeological labor to discern the economic dynamics at sites in India, sub-Saharan Africa, Latin America, and elsewhere. I attempt as well to understand what locally hired site workers in these areas are paid to do—and, more important, what working identities they are paid to perform. Like a network, I connect these disparate studies to one another through a commonality: that most often it is not their archaeological expertise for which most practiced excavation workers are economically rewarded but rather a performance of docility, submission, or an exaggerated "traditional" identity. The effect for archaeology is that the discipline produces less inclusive, less nuanced knowledge as site workers contribute their expertise only in subtle, implicit, tacit ways. To produce more dynamic understandings of the archaeological record, the economic structures of excavation must be sufficiently overturned so that site workers are paid for the explicit expression of their archaeological expertise and not for hiding it.

My aim in this book, though, is not merely to offer critique without hope. The shift toward reflexivity in archaeology has led to a multi-strand, multi-decade amassing of literature on the discipline's need to decolonize and to critically examine its aims, methods, and theoretical approaches. These calls have been necessary and important. More recently, though, there is an emerging and more optimistic discussion of how exactly archaeologists might re-imagine their work, whether through an enchantment-led approach (Perry 2019), through archaeologies of care (Caraher 2019), or through an archaeology of heart (Lyons et al. 2019; Lyons and Supernant 2019). Forward-looking frameworks like these are sprouting, budding, blossoming out of the substantive critique of archaeology's failures in equity, inclusion, and justice. Concepts like these do not purport to "solve" archaeology, instead offering something like trail markers pointing to potential ways forward but making no promises about the difficulty of the journey.

In chapter 6, I, too, offer a trail marker—one limited in scope but which orients this book toward the future, not simply the past. I argue that if site workers were included in the documentation efforts of the archaeological endeavor—and were paid for it—the interpretations reached over the course of the excavation could incorporate their particular perspectives and insights. I examine other projects that have used ethnographic interviews, sketching, video, crafting, and collaborative exhibit design toward this end, assessing their potential to transform the economic dynamics of archaeological labor that have created the phenomenon of lucrative non-knowledge. I also present the results of experiments I conducted in which I asked site

workers at Petra and Çatalhöyük to create photographs illustrating their experiences and insights into their work. In these experiments, I found that each participant developed an individual style of photography and that the photographs presented a willingness to play with the canonical types of photos from archaeological excavations, often lacking an identifiable main subject or taking photos of objects and places traditionally underrepresented in archaeological photographic archives. Of course, multimedia recording technologies such as photography and video aid in creating a comprehensive, multidimensional vision of the research process. But more important, these technologies redefine the politics and economics of representation so that locally hired laborers are both recognized and rewarded for their role as creative co-producers of archaeological knowledge.

After this anticipative discussion of how recording can be made more inclusive and more capable of engaging the specific observations and interpretations site workers have to offer, I expand the focus even further and suggest what this research reveals not just about archaeology but about science in general. Although there is a great deal of discussion about the management of people in scientific research contexts, along with the nature of their expertise and practices (e.g., Barley and Bechky 1993; Blok and Downey 2003; Doing 2004, 2008), "work" and "labor"—in both their physical and fiscal senses—remain underexamined (Vann 2004; Vann and Bowker 2006; Wouters et al. 2008). Archaeology is sweaty work, archaeology is an industry; accordingly, I address both body and economy. The conclusions I offer delineate what about this research is specific to excavation in the Middle East—with its particular colonial legacy—and, in contrast, what ties a man pushing a wheelbarrow across a grassy mound in 1962 to the knowledge production processes ongoing in libraries, laboratories, and other locations around the world.

Through the course of investigating, measuring, and engaging the expertise site workers possess in Petra and at Çatalhöyük, objects like bucrania, bracelets, and copper rings; methods such as sieving and brushing; and hypotheses regarding topics like bodily ornamentation and regional trade connections are drawn together and come into view. Using a diverse set of complementary methods, tacking among quantitative evidence, visual tools, thick description, and vivid imagery, I trace the connections between these disparate elements of the archaeological process to elucidate the perspective and roles of people who experience and see all these things, who connect them through their physical work and interpretive processes. As in archaeological excavation itself, I collect all of these disparate objects, practices, and ideas together and examine how they unite, in an attempt to understand the labor relations and epistemological

processes that hum at the center of the archaeological research endeavor, connecting all of these objects, ideas, and activities together. The networked analysis I present thereby brings into focus the entangled economics of expertise enabling facts to form from the fragmentary material record of the past.