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Porter, Benjamin W

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Feeding the Community: Objects, Scarcity and Commensality in the Early Iron Age Southern Levant

Benjamin W. Porter

Near Eastern Studies Department, University of California, Berkeley, Berkeley, CA 94720-1940, USA

E-mail: bwporter@berkeley.edu

Abstract

History and ethnicity have been the preferred frameworks for explaining how Levantine societies organized themselves during the early Iron Age. Consequently, opportunities are missed to understand how local economic and environmental factors structured social life. In this study, a collection of early Iron Age settlements from southwest central Jordan, the Dhiban and Karak Plateaus, is examined using a community perspective. Emphasis is placed on the production and consumption of food, the raw materials for household and communal wealth. The value of food in the communities was heightened due to the difficult semi-arid environmental conditions in which it was produced. The sharing of food between households and communities was one way to create social bonds, or to gain power over others. Food circulation through practices such as storage, everyday meals and feasts therefore offers an ideal window through which to observe social life. Evidence for the communities' food-systems is considered (faunal and palaeobotanical data, storage and food production facilities, ceramic vessel production). The presence and uneven distribution of this evidence within individual communities indicates that households possessed different amounts of food, signaling a degree of inequality between households. A collection of decorated ceramic food-serving vessels is also discussed along with information about its production, its semiotic qualities and the possible roles it played in commensal events. One broader implication of this study is that materials were entangled in the networks of relationships that constituted early Iron Age social life. This recognition of the material world's participation challenges normative ways that early Iron Age societies have been analyzed and represented.

Keywords: *ceramic vessels, food, feast, Khirbat al-Mudayna al-'Aliya, early Iron Age, Levant, Jordan*

Introduction

The last two centuries of the second millennium BC, the early Iron Age, formed an interlude between the decline of the Bronze Age southern Levantine city-states and the rise of territorially based polities of the early first millennium BC, such as ancient Israel, Moab and Edom. Indigenous early Iron Age societies experienced a collapse, fragmentation and eventual reformation in settlement hierarchies, political and economic

organization, and social identities. Despite the relative decline in overall social complexity, archaeologists and historians have paid an inordinate amount of attention to this time period, in part due to its relationship with the Hebrew Bible (e.g. Dever 2003; Faust 2006; Hopkins 1985; Killebrew 2005; Miller 2005). The Books of Joshua, Judges and Samuel, in particular, describe the introduction of the narrative's key protagonist, the Israelites, and a number of

their adversaries like the Philistines, Moabites and Canaanites. However, the biblical description of the time period is complicated by the likelihood that the narrative was written down, redacted and revised in the centuries following the events it describes (Knoppers and Conville 2000; McCarter 1980: 12-30; 1984; Nelson 1997: 2-3; Niditch 2008: 6-8). Further complicating matters is the limited corpus of excavated epigraphic evidence (e.g. the Gezer Calendar, 'Izbet Sartah inscriptions) that, however valuable, contain limited information on political and economic changes.

Scholars have instead relied on the time period's archaeological record to compensate for the small number of written sources. In doing so, they have treated the data in two particular ways. On one hand, scholars have insisted on historicizing the early Iron Age assemblage, that is, interpreting archaeological data in terms of the historical events gleaned from uncertain biblical reports about the time period (e.g. Bright 1959; Dever 1995). Archaeological evidence is used to fill in gaps in knowledge that bolster the accuracy of the biblical narrative, or corroborate events described in the sources. Evidence that counters or complicates the written sources is often left dormant or classified as anomalous, set aside in favor of evidence that complements or extends the written sources. Scholars have also subjected archaeological assemblages to ethnicizing frameworks that have been developed over the last century, using historical-geographic interpretations of the biblical narrative. Using cultural area classificatory techniques developed in early 20th-century archaeological research (Trigger 1989: 122-23; Willey and Sabloff 1993: 127-37), scholars categorize sites and assemblages into discrete geographical units and then assign ethno-taxonomic labels such as 'Israelite' and 'Philistine' to write early Iron Age culture histories (e.g. most recently, Faust 2008; Killebrew 2005).

Architecture and pottery, in particular, have played important evidentiary roles in ethniciz-

ing and historicizing early Iron Age social life. This attention is partly due to their repetition and abundance in the archaeological record—it is impossible to deny the striking visible differences between regional assemblages that contrast, for example, between the plain cooking pots and storage jars of the 'Israelite' central highlands with the decorated vessels of the 'Philistine' coastal plain. Analyses of these assemblages are laden with an *a priori* assumption that 'pots equal people', based on the belief that the maker's cultural identity was the principal structuring factor in the production of the material world, despite the lack of convincing direct evidence that communal identities were expressed explicitly or implicitly.

Discussions over the last two decades have sought to resolve uncertainties around this question. While some scholars have argued that there is a lack of convincing direct evidence that the communal identities described in written sources were expressed in material culture (Coote 1990; Lemche 1998; Thompson 1992; Whitelam 1995), others have complicated or refined frameworks using more nuanced social scientific categories or different kinds of evidence (e.g. faunal) (e.g. Bauer 1998; Bunimovitz 1990; 1996; Finkelstein 1996; Hesse and Wapnish 1997; Stone 1995). Still, the idea that the presence or absence of apparently non-essential stylistic design features in ceramic assemblages—such as slips, pigments and, most commonly, collars on the base of jar rims—are conspicuous markers of shared cultural identities, remains not only in recent scholarship (Dever 2006; Faust 2008; Killebrew 2005) but also in presentations to public audiences (e.g. Cline 2009), particularly faith-based ones.

In this study, I do not suggest that scholars abandon these frameworks—after all, these ethno-taxonomies have been crafted over the past century to provide a common nomenclature to share and discuss evidence. They also resonate with public audiences eager to see physical evidence for a text that is central to their faith or

that upholds nationalist and ethnic ideals (Abu el-Haj 2001; Steen 2002). But I do argue that the rush to deploy historicizing and ethnicizing frameworks on early Iron Age archaeological assemblages has consequences for the investigation of the period's social life. Because these frameworks often ignore nuances for the sake of creating homogeneity within assemblages, they prevent the identification of local patterns that reveal the different ways individual settlements responded to the unique challenges of the early Iron Age southern Levant. If the period was indeed as deflated in political and economic social complexity as it is often characterized (Bloch-Smith and Nakhai 1999), then one would predict more heterogeneity in local expressions of subsistence and social life than is currently acknowledged. In order to recognize this heterogeneity, the resolution at which early Iron Age social life is studied must be narrowed considerably, so that slight differences within architectural and artifactual data can be observed and interpreted in closer detail. On doing so, the nuanced mechanics of early Iron Age social life can be appreciated on its own terms for its local diversity, rather than its abilities to uphold the biblical narrative or meet the regional ethno-taxonomies to which the field clings.

In order to demonstrate this point, I analyze a selection of early Iron Age settlements from southwest central Jordan, the Dhiban and Karak Plateaus, using a community perspective to piece together the micro-politics of everyday social life. I use as my window the production, circulation and consumption of food, the raw materials for household and communal wealth. Social scientists have long observed how humans use commensal practices to convert food into different kinds of wealth or garner power over their affiliates (Goody 1998; Wiessner and Schiefelhövel 1996). Archaeologists and historians have also recognized these practices in past societies throughout the world (e.g. Bray 2003b; Dietler and Hayden 2001; Grottanelli and Milano 2004;

Twiss 2007). These studies demonstrate that the sharing of food does not merely mark important holidays, accomplishments and rites of passage for the larger community. Rather, commensal events become venues in which relationships among people are forged through the evocative cultural practices of gifting and consumption. In such gift exchanges, the sharing of food is bundled with messages and obligations that the recipient is obligated to interpret and sometimes reciprocate at later points in time (Mauss 1925). Benign events aimed at fostering communal cohesion could in fact be part of veiled strategies to accrue power through the public demonstration of generosity and wealth (Porter *et al.* 2010).

Commensal events were commonplace in ancient Near Eastern and Mediterranean societies, and evidence from adjacent Bronze and Iron Age societies help to portray the roles food played in the commensal strategies of the early Iron Age communities under discussion (Schmandt-Besserat 2001; Wright 2010a; 2010b). Written sources, for example, attest to the tribute of food that was paid to palaces and temples at scheduled times of the year, and the lavish banquets thrown to commemorate success in warfare, treaties, the inauguration of a new temple or palace, and deities' feast days (Bottéro 1994; Lambert 1993; MacDonald 2008; Sasson 2004). Commensal practices have also been identified in the archaeological record of Near Eastern societies using a number of physical signatures linked to the production, storage and consumption of food (Dietler and Hayden 2001; Lev-Tov and McGeough 2007; Lewis 2007; London 2009; Pollack 2003; Twiss 2007; Zuckerman 2007). These signatures range from the food itself, to preparation and serving vessels, food preparation facilities, food storage facilities, feasting contexts, associated prestige and ritualized items, and visual culture and written sources describing events (Hayden 2001: table 2.1).

Ancient Near Eastern visual culture provides a complementary window into commensal events,

particularly the role that objects played, a point that Zuckerman (2007) and Wright (2010a; 2010b) recently made independently. Banquet scenes of elites surrounded by soldiers, musicians, food and captives are commonly represented in Mesopotamian and Levantine visual culture (e.g. the Standard of Ur; the Uruk Vase; Megiddo ivory, no 2; Ashurbanipal's garden scene). These images indicate that objects were more than passive tools or markers of elite or cultural identity. Instead, they helped create the visual language that indexed the commensal act for participants. Objects were unassuming participants in the unfolding events that affirmed authority, cultural superiority and remunerations for work. Vessels carried valuable contents to the occasion, displayed food for hosts and held food for guests, and mediated the act of eating. In fact, one could argue that objects first had to arrive on the scene before the commensal act could begin.

Below, I present an overview of the Dhiban and Karak Plateaus' early Iron Age communities' food-systems, reconstructing the organization of their animal and plant economies, as well as storage and food production facilities. The presence and uneven distribution of this evidence within individual communities indicates that households possessed different amounts of food, signaling a degree of inequality across households. Afterwards, I examine the organization of the communities' ceramic vessel economy. I focus on a collection of decorated ceramic food-serving vessels that stand out against a largely undecorated, locally produced vessel assemblage, and consider the roles it played in commensal acts. In the ensuing discussion and conclusion, I rethink how Levantine assemblages did more than just fulfill its users' functional needs or express their ideologies. Instead, I argue that the material world did as much work shaping early Iron Age societies as societies shaped the material world.

Food Production, Scarcity and Commensal Strategies in Early Iron Age Southwest Central Jordan

Early Iron Age southwest central Jordan, the Dhiban and Karak Plateaus, consists of a regional settlement pattern of agro-pastoralist communities that has been identified in survey projects (summarized in Routledge 2004: table 4.2), and studied in excavation projects (Figure 1). These settlements include 'Aro'er (Olàvarri 1965; 1969; 1993), Balu'a (Worschech 1989; Worschech and Ninow 1994; 1999; Worschech *et al.* 1986), Dhiban (Morton 1989; Porter *et al.* 2005; Routledge 2004; Tushingham 1972; Winnett and Reed 1964), Khirbat al-Mudayna al-'Aliya (or, al-'Aliya) (Routledge 2000; 2004; 2008; Routledge and Porter 2007), Khirbat al-Mudayna al-Mu'arradja (or, al-Mu'arradja) (Olàvarri 1977; 1983; Menéndez 1983), Khirbat al-Mu'ammariyya (or, al-Mu'ammariyya) (Ninow 2004; 2006) and Lahun (Homes-Frédéricq 1992; 1994; 1995; 1997; 2000; Swinnen 2009). Some, but not all, settlements (e.g. 'Aro'er, Balu'a, Dhiban) share a similar architectural pattern: a series of Levantine pillared buildings with adjacent walls formed an oval or elliptical ring around a central courtyard that was either left empty (e.g. al-'Aliya, al-Mu'ammariyya) or contained additional buildings (e.g. Lahun, al-Mu'arradja) (Figure 2). Many of these settlements were located along the edges of the deep Wadi al-Mujib canyon that bisects the plateaus. This location granted access to the canyon's narrow but lush riparian zones as well as the plateau's flat tablelands, where herds could graze on naturally available grasses.

Similarities in settlement size and design indicate a single-tiered site hierarchy that lacks a central administrative center from which one settlement could dominate others, or demand surplus production for regional elites. Al-'Aliya, al-Mu'arradja, and Lahun, whose early Iron Age remains are exposed at or near the surface, range

Figure 1. Map of select early Iron Age settlements in Central Jordan. Precipitation isohyets are represented as dashed lines

Figure 2. Map of al-'Aliya denoting Buildings 100 through 800: tower (1), moat (2), a possible gated entrance (3), paved pathway (4), and courtyard (5).

in size at 2.2, 1.6 and 1.7 ha respectively. While the full extent of 'Aro'er and Balu'a are difficult to measure, as early Iron Age remains have only been investigated in limited horizontal exposures, a reasonable estimate for each settlement would not exceed 3 ha overall. The absence of a highly integrated regional political organization, however, does not eliminate the likelihood that these settlements interacted with each other. Aside from Lahun, which may have been founded as early as the end of the 13th century BC and continued to be occupied into the 11th century BC (Routledge 2008: 163-64), the remaining six settlements were likely founded and abandoned at some point during the 11th century BC. This dating is supported chronometrically only at al-'Aliya,¹ but published ceramic evidence suggests roughly contemporary occupation at all of the settlements in question (Porter 2007; Routledge 2000: 47; 2008).

A lack of regional political complexity conflicts with the biblical representation of early Iron Age west-central Jordan. The Bible reports that when the Israelites entered the region in the final decades of the Late Bronze Age, they encountered political entities ruled by elites and organized according to territory and ethnicity. In the bibli-

cal description, the Arnon River—the modern Wadi al-Mujib—divided the territories of the Ammonites and the Moabites on the north and south respectively (Numbers 21: 26). The Bible mentions four kings who were said to have ruled early Iron Age west-central Jordan: the Amorite Sihon (Numbers 21: 21-30), an anonymous Moabite king (Number 21: 26), Balak (Numbers 22-24) and Eglon (Judges 3: 12-30). Following the Israelites' military campaigns against these kings, the tribes of Reuben and Gad reportedly settled portions of west-central Jordan, although the biblical narrative suggests their territory did not extend south of the Wadi al-Mujib (MacDonald 2000: 172-73). Scholars have wrestled with this lack of fit between the written sources and archaeological data, and almost all agree that a re-characterization of the region's societies is necessary (Boling 1988; Dearman 1992: 73; Knauf 1992: 48; Miller 1992; Routledge 2004: 87-113). Some scholars have looked to social evolutionary taxonomies to reclassify the evidence in terms of tribes, chiefdoms or states (Mattingly 1992: 61-62; van der Steen 2004). While these suggestions offer various ways to conceive of regional inter-settlement political and economic relationships, they do not provide the

resolution needed to appreciate social life at local levels.

As an alternative, I have argued previously that the best way to understand early Iron Age social life in these and other southern Levantine settlements is through a community perspective (Porter 2007; 2010). Archaeologists' interests in the analytical utility of the community in the investigation of social life has intensified over the last decade (Canuto and Yaeger 2000; Faust 2000; Gerritsen 2004; Knapp 2003), providing a useful scheme for understanding inter-household and supra-household relationships, particularly in small-scale societies. Communities are contingent phenomena that configure collections of dependent face-to-face relationships inclusive of, but also extending beyond, the immediate kin group. In ancient communities where communication technologies were lacking, face-to-face interactions became a distinguishing characteristic of members' relationships and were the building blocks of social cohesion. Communities were not necessarily egalitarian, despite the popular contemporary belief that they must always be so (Joseph 2002), but instead were structured according to potentially coercive and implicit social contracts based on mutual prosperity, defense and subsistence. Wealth, both tangible and intangible (e.g. charisma), was key to helping members and households position themselves in local society; therefore, the ways it was produced, managed and exchanged played an important role in structuring a community's relationships. The key to understanding how the social life of these early Iron Age communities was organized, then, is to observe how wealth was produced by, circulated between and consumed by members. Were households, for example, responsible for managing their own production routines, or did households collaborate? Were households relatively equal in wealth or did some hold sway over others?

These questions can be answered by paying attention to the various ways households managed food within communities. Food was more

than just the raw material necessary for subsistence: it was the basis for defining wealth and status at the local level. An interconnected food system composed of different production routines was implemented to meet both the practical and symbolic needs of households (LaBianca 1990: 9-21). Complicating this food system, however, were the very real anxieties over subsistence in the semi-arid zones in which settlements were positioned. Almost all of the well-known early Iron Age settlements are situated between the 100 and 300 mm precipitation isohyets (see Figure 1, above), and therefore received only the minimum amount of moisture needed to practice rain-fed grain agriculture (Cordova 2007). The yellow Mediterranean and steppic soils surrounding most settlements also limited production and, given the propensity for semi-arid zones to experience unexpected droughts and famine (Wallen 1967), the settlements' food systems could be disrupted by periods of scarcity. Consequently, producers implemented risk-reducing strategies that could mitigate crises, the most obvious one being the development of an extensive (rather than intensive) agro-pastoralist food system designed to meet local demands.

Physical evidence for this food system is best documented at al-'Aliya, where faunal and botanical data have been collected and analyzed (Lev-Tov *et al.* 2011; Simmons 2000). Faunal analysis determined that the settlement depended mainly on sheep (*Ovis aries*) and goat (*Capra hircus*) for meat, wool and dairy products, with goats being the more favored, likely due to their hardiness in a semi-arid environment. Other exploited domesticated animals were cattle (*Bos taurus*), equids, pigs (*Sus scrofa*) and dogs (*Canis familiaris*). A large number of wild fauna was present in the assemblage, including deer, birds, fish and freshwater crabs, the last harvested in abundance in the wadi riparian zone. The analysis of botanical evidence from one storage bin in Building 100 (Unit 4J41) revealed a number of cereals in grain and chaff form, as well as pulses and fruits, with an

emphasis on two-row barley and figs (Simmons 2000: fig. 15). Since a high percentage of straw and other roughage was found in the sample, the barley was likely stored for animal rather than human consumption. Stored fodder could feed herds during those lean portions of the year (e.g. August and September) after field stubble had been completely grazed.

Both the faunal and botanical evidence indicate that the riparian zones at the bottom of the canyons were essential to this agro-pastoralist food system. Herds could be watered in the perennial springs there and wild animals could be hunted. Several wetland weed species mixed with barley were identified in the botanical evidence (Simmons 2000: 44-46, fig. 23), suggesting that cereals were harvested near water sources, likely using low-intensive floodwater farming techniques. Together, this evidence points to a Mediterranean diet typical of Levantine Bronze and Iron Age societies that consisted predominantly of dairy products, grains, vegetables, fruit, pulses and oils (Borowski 2004). Meat and fish were present, but not as commonly consumed. The lack of cold storage meant that milk would have to be quickly processed into products such as cheese, yogurt and butter, and meat products would have been smoked, dried or salted to stave off spoilage. Grains would have been ground and baked in ovens to produce flat breads, and vegetables, fruits, pulses and occasionally meat would be combined to make stews.

Multiple physical signatures for communal practices described by Hayden (2001) are identifiable in the early Iron Age communities' archaeological record. In individual pillared buildings, rear rooms provided the necessary dry and protected conditions needed to preserve bulk agricultural goods. At Lahun, for example, the floors of these rooms were often covered with flagstones that elevated stored goods off the ground, protecting it from moisture and burrowing rodents (e.g. Rooms II.1, II.2 and III in House 1 at Lahun—Homès-Fredericq 2000:

189-91) (Figure 3B). Room III had no apparent entrance, leading the excavator to interpret the room's function as a granary with an entrance through the roof (Homès-Fredericq 2000: 190-91). At al-'Aliya, however, the construction of these storage units was even more elaborate. Bins were carved out of the marl bedrock, usually below the bottom of the wall, creating a semi-subterranean structure lined with stones that was nearly impenetrable by animals. Jars with relatively narrow openings provided additional protection from these spoiling elements, as well as evaporation and spoilage of liquids. There is also evidence for food production in these pillared buildings, where ovens, ground stone tools and ceramic vessels co-occurred in the same context. In one instance, a food production area was excavated at Lahun with an oven located next to the building's entrance, likely for ventilation purposes, a basalt grinding stone and grinder, and other ceramic vessels such as cooking pots (Homès-Fredericq 1992: 188-91) (Figure 3A). Repeated patterns of storage and cooking in individual buildings suggest food storage and daily food preparation, and consumption was organized at the household level. The sharing of food within households was therefore one of the ways cohesion was maintained at the most immediate level of the community.

If a well-stocked building was an indicator of household wealth, then differences in the relative size of buildings and their constituent storage installations and food production centers suggest wealth was not equally distributed within the community. At al-'Aliya, for instance, seven buildings range in area between 71 and 239 sq m (Routledge 2000: 49, table 3). One structure, Building 500, greatly surpasses its neighbors in size. Although its full extent is not yet known, this building was at least 238 sq m (Figure 4). Although a typical pillared building is recognizable in the complex (Rooms 501-503), there are several additional rooms surrounding it, only some of which have been documented (e.g. Rooms 504-509). Additionally, a large granary

Figure 3. The 'Scarab House' (A) and Building 100 (B) at Lahun. Food production areas marked in light gray (adapted from Homès-Fredericq 1992: fig. 16.4 and Homès-Fredericq 2000: fig. 3).

Figure 4. Al-'Aliya's Building 500 and Room 503's kitchen.

was attached to the back of the pillared building; carbonized barley was found in one bin (504a) and storage jars were excavated in large bins (508a and 508b). These bins were well protected – one had to pass through a narrow corridor (Rooms 504b, 505–507) to access them. Adjacent to the storage area was a large kitchen (Room 503) that included ovens of various sizes, grain grinding installations with basalt grinders, platforms for cooling food, and limestone bowls and mortars. Room 503's primary purpose was the production of grain-based food, probably breads, for a large number of people. The size and contents of this kitchen installation, as compared to the Lahun example discussed above, are significant. Room 503 contains more ovens, and ground stone tools in a concentrated space. Furthermore, production activity areas dedicated to grinding, baking, and cooling seem to have been organized into discreet and permanent spaces. Conversely, in the Lahun pillared building, food production activities (e.g. grinding, processing, etc.) other than cooking are difficult to discern; they likely shared space with non-food producing activities.

These differences in size are symptomatic of emergent inequalities across households. Whoever lived in al-'Aliya's Building 500 had the potential capacity to undertake more ambitious building projects and construct relatively more sophisticated storage installations than neighboring households. These storage installations and large kitchen indicate that the building's occupants could meet their own household's needs as well as distribute food to other households. This household could deploy their wealth through commensal strategies like feasts in order to recruit households for projects in which more labor was needed than the immediate household could provide, such as the construction of the community's sizeable fortifications. During periods of scarcity, households could accrue power through the distribution of food to less fortunate households for the sake of demonstrating their

generosity and shoring up reciprocal obligations. Households could also use their wealth to recruit new households to the community, or reaffirm relationships to discourage defection.

The necessity of commensal practices becomes all the more obvious when one realizes how easily the early Iron Age communities could be and were abandoned by disaffected households. At al-'Aliya, Buildings 200 and 700 contained a large number of artifacts in the fills above the surface, suggesting that the rest of the community used this house as a midden following its abandonment (Routledge 2004: 106–108). Construction materials from the building were also missing—probably re-used for new houses in the community. Building 700's state contrasts with other buildings at al-'Aliya, like Building 500 whose preservation, especially the kitchen, was excellent. If households like that of Building 700 did defect from the communities, they could have founded new settlements in the region, recruiting other households to join them to generate a new community.

Moreover, households that amassed too much wealth faced the problem of household defections. So long as households engaged in material (e.g. grain surplus) and immaterial (e.g. labor) acts of reciprocity, the community's ethos of cooperation could be sustained. Yet such reciprocal acts were potentially difficult to maintain in a resource-scarce, semi-arid environment. Wealthy households were forced to make an inconvenient choice. On the one hand, they could redistribute their wealth as gifts to less fortunate households. In doing so, social cohesion was maintained and the community could endure short-term hardships. Yet at the same time, wealthy households risked losing the assets on which their authority was based. On the other hand, wealthy households could choose to hoard surplus wealth and abstain from reciprocal relationships, acts that would result in widened asymmetries, mass defections or, worse, insurrections. Wealthy households likely practiced a combination of

these strategies, which they adjusted as environmental and political contingencies arose and subsided.

A Ceramic Vessel Feasting Assemblage

Well-preserved contexts like the kitchens and storage facilities described above offer the best contexts for reconstructing commensal practices in the early Iron Age communities. The precise location of the feasting events alluded to earlier have not been identified thus far in the archaeological record of the early Iron Age communities. One can imagine, however, that they took place in the large empty courtyards in the middle of many settlements, or in a designated building remaining to be excavated. Despite this contextual lacuna, other signatures of commensal practices are available, particularly in the communities' ceramic vessel assemblages.

Ceramic vessels were essential to maintaining the communities' agro-pastoralist food system. Vessel assemblages consisted of a typical early Iron Age repertoire of hemispherical and sometimes carinated bowls of various depths, open-mouthed kraters, and cooking pots used for food preparation, two-handled ovoid jars with narrow openings for liquid and grain storage, smaller one-handled jars and juglets for serving liquids, and simple lamps (Porter 2007: 216-317; Routledge 2008). Although essential tools in production routines, vessels were unfortunately not readily available items in the landscape compared to, for instance, stones for architectural production, or wild animals for hunting. Vessels had to be made from scratch, and their production required prior knowledge of technologies as well as proper clay, tempers, fuel and water, all of which were naturally available to varying degrees in the landscape, but still required procurement. Furthermore, vessel production, if not a specialized, full-time activity, had to be scheduled into the agricultural cycle so as not to rob from labor and resources needed elsewhere.

Reconstructing the nature of vessel production, particularly who managed and therefore controlled their creation, is essential to understanding their role in the communities' food systems. Did an individual household possess the knowledge and labor resources to make and distribute vessels to the community through a type of redistributive system? Or was it a communal affair in which all or most households participated? The most obvious way to answer these questions would be to discover the location of vessel production. But so far, no workshops, kilns or other production equipment (e.g. wheels) have been excavated that would allow a direct investigation of the industry. A possible explanation for this absence may be the likelihood that vessel production occurred in the canyon riparian zones where clay, fuel and water sources were readily available. In such locations, producers could have used open or pit firing methods, an inexpensive method whose evidence is unfortunately difficult to locate in the archaeological record.

In the absence of direct evidence, scientific analyses of the early Iron Age ceramic vessel assemblage may help to characterize the organization of its production. Instrumental Neutron Activation Analysis (INAA hereafter), for example, analyzes the elemental composition of individual vessels and uses multivariate statistics to measure the probability that they were crafted from similar raw materials (Glascock 1992; Glascock and Neff 2003; Neff 2000). INAA was carried out on 51 samples from al-'Aliya as part of a larger study on Iron Age vessel production in central Jordan (Porter 2007). A smaller number of samples from Balu'a (n=7) and Lahun (n=9) were included for regional comparative purposes. These samples sorted into two compositional groups. While Group One (n=53) consisted of a variety of different vessel types from different settlements, Group Two (n=4) consisted entirely of cooking vessels from al-'Aliya. Another ten samples could not be classified within either group or their own group,

an indication that other compositional groups might be identified with further sampling.

The results suggest that, in general, producers from different settlements used similar clay sources for all vessel types except those designated for cooking. Desiring a more refined understanding of vessel production, particularly tempering practices, thin-sections of 51 vessels from al-'Aliya were analyzed using petrographic techniques to measure the vessels' mineral composition (Klassen 2010). Like the INAA results, these samples sorted into five fabric groups that reflected only a limited amount of diversity in production technologies and regional provenance. While the full results of these analyses will be published elsewhere (Routledge *et al.* 2011), in summary, both INAA and petrographic analyses characterized vessel production as a routine that was relatively unspecialized in its technology and organization. Aside from cooking vessels, neither the INAA nor the petrographic samples sorted according to a particular vessel form (e.g. bowl, jar), an indication that specific clays and tempering techniques were not selected to make a particular vessel. Nor did groups sort according to a particular household or settlement. Rather, it appears that production was a communal affair. Both petrographic and INAA results indicate that raw materials were procured locally and no vessels seem to have been imported from outside the region.

While the chemical and petrographic data are helpful in characterizing the general organization of vessel production, other lines of evidence help to identify which vessels were used in commensal practices. Commensal vessels can be identified within assemblages based on the abundance of certain forms designed for food consumption (e.g. bowls), or the production of select sub-assemblages made under specialized conditions (Hayden 2001: table 2.1); other studies have identified commensal assemblages based on such characteristics (e.g. Bray 2003a; Cook and Glowacki 2003; Nelson 2003). Alternatively, in the early Iron Age communities

vessels were made under the same relatively unspecialized conditions and most were likely used for multiple purposes, from serving food to storage, gathering and food production.

One exception, however, is a distinct sub-assemblage of painted bowls and kraters that stand out from the mainly undecorated majority (Figure 5). The presence of decorated vessels defies normative expectations for an unspecialized vessel industry and requires further consideration. This sub-assemblage consists of 21 excavated samples (Table 1): 14 from al-'Aliya, four from Balu'a, two from 'Aro'er, and one from Dhiban.² Decoration consists of the application of red pigments to the exteriors, rim and, occasionally, the interiors of vessels. Most designs consist of irregular lines varying in shape and length running vertically or diagonally down from the rim. There is occasionally a horizontal band running just below and parallel to the rim. The design's colors fall within reds and browns, although their original color cannot be determined precisely due to the pigments' interaction with the soils in which it was buried. No complete vessels have been found so it is impossible to determine if the preserved patterns were repeated throughout the bowl. The use of white slip under these decorations is present only some of the time. So far, this pattern has only appeared on open vessels, bowls and kraters, two vessel forms used in the presentation and consumption of food. Bowl forms included a medium deep hemispherical bowl with a simple vertical rim and rounded lip (Figure 6.1-6.2), as well as small, medium and large bowls with simple vertical and out-curving rims and rounded lips (the most popular form in the early Iron Age assemblage) (Figure 6.3-6.8). Some variation exists within this category, such as a double carinated bowl (Figure 6.9), a sharply carinated bowl (Figure 6.10), and bowls with thickened rims (Figure 6.11-6.12). Also, the assemblage consists of small kraters with thickened globular rims and gentle carinations (Figure 7.13-7.16) and medium kraters with externally thickened

Figure 5. Decorated vessels, nos. 11, 16, and 21. A color version of this image can be viewed in the on-line version of this article, or at <http://opencontext.org/media/1451AD63-4103-4DE9-D0EB-F6178C2090AF>

LA-ICP-MS). Like INAA, LA-ICP-MS measures the elemental composition of artifacts (Porter and Speakman 2008; Speakman and Neff 2005). Eight samples were tested, although only three samples (nos. 4, 5, and 21) had pigments sufficiently well preserved to be analyzed successfully. A bivariate plot comparing the samples' iron and magnesium oxide levels is presented in Figure 9. The results demonstrate that early Iron Age pigments were somewhat similar in the amounts of each oxide and were relatively high in iron oxide concentrations compared to later Iron Age pigments that were tested. Although more pigment samples should be tested, these prelimi-

nary results suggest that producers used similar resources and recipes when making the pigment.

Discussion

The presence of this painted assemblage among a relatively unspecialized, undecorated corpus of ceramic vessels is conspicuous, raising a number of questions about its makers, users and the role it played in the communities' social life. Some clues are apparent in the information regarding how these vessels were made. First, producers formed decorated vessels using the same clay and temper recipes as undecorated vessels, and similar

Figure 6. Profiles of decorated vessels, nos. 1–12.

vessel forms were used for both undecorated and decorated genres. This pattern suggests that the act of decorating was integrated into broader vessel production routines rather than taking place in some specialized, possibly ritualized, register of production. In other words, there seems to have been nothing particularly special about the materials used to craft decorated vessels. Second, the fact that producers based in at least four different early Iron Age communities replicated a relatively similar pattern speaks to

the broad appeal of the design across the region. If the decorated vessels had been crafted in a single workshop, then the design's replication could have been interpreted as a single workshop tradition. Instead, explanations for this design's regional circulation and replication exist in three possibilities. One, decorated vessels could have circulated to a new community where a producer encountered and then replicated the design on new vessels. Two, producers from different communities were in contact with each other enough

Figure 7. Profiles of decorated vessels, nos. 13-16.

Figure 8. Profiles of decorated vessels, nos. 17-21.

Figure 9. Bivariate plot comparing iron and magnesium base-10 logged concentration for red pigments ($n=29$), characterized by LA-ICP-MS. Ellipses represent 90% confidence levels for group membership. Unassigned samples ($n=7$) not shown.

to exchange knowledge about the design. This contact could have existed through the sharing of vessel production resources in the riparian zones, or through visits to different communities. Or, three, knowledge of ceramic production technologies and designs circulated between communities through the transfer of their members. Such transfers could have included the exchange of offspring in marriage alliances, or the defection of households from one community to another nearby.

Current knowledge of the decorated vessel assemblage prevents privileging one of these explanations over the other. Nevertheless, there seems to have been something attractive about this design that motivated producers in different communities to replicate it in similar ways. It is possible to imagine a scenario in which this

design served as some expression of solidarity or affinity between communities. Making, owning and using a vessel could have signaled a person's membership in a larger supra-communal identity, possibly a sign of an emergent Moabite identity that would develop more fully by the 9th century BC under a territorial polity and expressed in written sources like the Mesha Inscription (Dearman 1989; Routledge 2004). While scholars working within ethnicizing and historicizing frameworks may be attracted to such an interpretation, it still does not explain why ethnicity would need to be signaled in commensal events.

Perhaps a more intriguing aspect of these patterns is their semiotic role in commensal practices. If food was wealth to be exchanged in the early Iron Age communities, as I have argued, then the vessels that contained and presented it served as

Figure 10. Two simulations of the appearances of reconstructed vessels (nos. 1, 21). The first (A) presents vessels in a low-lit building interior. The second (B) presents the same vessels in a low-lit open courtyard context. A colour version of this image can be viewed in the on-line version of this article, or at <http://opencontext.org/media/433B71B0-EFEE-4C9B-5C6C-9E598CAE7E62> (image courtesy of Andrew Wilson).

a type of value-enhancing package that accentuated its presentation. Visual simulations can help to model the presentation of the decorated vessels within two different commensal environments. In Figure 10A, the vessels are illuminated by a fire at 1126.85 degrees Celsius (1400 Kelvin) in a stone wall interior like those found in the early Iron Age communities; in Figure 10B, the vessels are illuminated by an open-air fire burning at the same temperature.³ The design's appearance on the vessel's exterior was visible to viewers sitting or standing near them. Food displayed inside and above the vessel would not have obscured the design, and may have played a complementing design role. Even when bowls were lifted to the face, the decoration would still have been visible to viewers.

While the vessel's presentation is easy to envision, more difficult is interpreting the meanings attached to the design. The choice of red pigment may have indexed the kind of materials that were to be presented in the vessel, red liquids, perhaps blood, being a candidate. Red, however, was a convenient pigment to produce when using heavily levigated red soils typical in the landscape. Red slips and paints were only second to white in popularity, and remained so throughout the Bronze and Iron Ages, black being less common than red (Amiran 1970). The irregular streaky vertical and diagonal lines could have been an attempt to simulate a spilling of the contents down the vessel's sides. Such an image would have signaled a message of abundance, accentuating the symbolic value of the contents. That a host could allow for such haphazard wasting of food during periods of scarcity would have been a conspicuous display of wealth. Whatever the design signified, the red paint on a plain brown, and especially white slipped, background would have been a striking image under these low-light conditions that stood out against a relatively undecorated vessel assemblage. They, along with other co-present materials—the food that was served, the space that structured the hosts and guests interactions, the light and the

weather—helped to frame the setting and establish the sensorial cues that created the commensal event. Without these things assembled, the event could not achieve the host's desired effects.

Perhaps co-present elements did more than passively frame the event; they may have participated in hosting duties alongside their human counterparts. In recent years, scholars, archaeologists included, have recognized the various ways that material and human worlds are entangled in relationships (Gosden 2005; Miller 2005; Preucel 2006). Such a perspective counters a number of long-standing beliefs about the material world in social life, namely that it is the outcome of human relationships, or that humans produce and dominate the materials around them. Rather, under this new perspective, the material world can produce, participate in and mediate social life. Moreover, objects can have agentive qualities that shape the societies in which they participate (Feldman 2010; *contra* Knappett 2005). Either on its own, or in quiet cooperation or competition with humans, the material world can form or destroy the social bonds between humans. The decorated vessels are thus implicated in the commensal strategies designed to transform relationships between human participants, whether it was in strengthening mutual bonds, creating reciprocal obligations or demonstrating wealth and authority.

Conclusion: The Material World in Early Iron Age Social Life

The assemblage of southwest central Jordan's early Iron Age settlements, particularly the painted vessels analyzed above, holds all of the familiar interpretive problems of other contemporary assemblages in the southern Levant. Written sources aside from the problematic biblical narratives do not describe a large aggressive political or economic force that would have integrated settlements and economies. Additionally, there is so far no evidence that these settlements considered themselves part of a larger collective

identity, nor is there any indication that a collective identity was expressed through material culture, although objects may have been used to express other aspects of identity. Rather, several lines of evidence show that settlements were autonomous and social life is best understood through a community perspective that engages with the relationships between households. Yet at the same time, one cannot ignore the homogeneity among settlements in layout, architectural design and material cultural forms which, at the very least, indicates that settlements were aware of and in contact with each other. While it may be within reason to suggest that this evidence is an incipient sign of an emergent collective Moabite identity, I believe a more provocative use of the evidence can be found in interpretations that explain how these objects informed and participated in the social life of the communities.

In order to make this move, I have set aside the traditional rubric that 'pots equal people' and instead argue that the material world—the environment, architecture, objects, and so on—played as much of a role in shaping early Iron Age societies as these societies shaped it. Recognizing the material world's participation in social life, then, expands the constitution of early Iron Age societies beyond that of human subjects. But deploying this new perspective requires a very careful analysis of the evidence at local resolutions. The early Iron Age's diverse economic and environmental circumstances suggest that relationships between the human and material world were constituted differently across the landscape. Factors influencing these differences might have been environments with different levels of natural resources, the availability of building materials, closer proximity to markets and greater access to imported items. For instance, in the communities considered above, scarcity, or its possibility, played an important role in shaping relationships between the human and material worlds. Settlements and buildings were designed to store and protect surplus food, and ceramic vessels were designed to store, pre-

pare and serve food. Humans could take credit for successes in animal husbandry, agriculture, and house and fortification building. But if there was no precipitation, and if soil nutrients had been depleted, insects had infested the grain surplus, and all the ceramic vessels were broken, then humans would have been required to rethink their relationships with the non-human agents that lurked just beyond the limits of their awareness.

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About the Author

Benjamin Porter is Assistant Professor of Near Eastern archaeology at the University of California, Berkeley, and Curator of Near Eastern archaeology at the Phoebe A. Hearst Museum of Anthropology. He earned his PhD in Anthropology at the University of Pennsylvania in 2007. He is currently completing a book investigating production, authority, and social life in the early Iron Age Levant. He co-directs the Dhiban Excavation and Development Project in Jordan and the Dilmun Bioarchaeology Project in Bahrain.

Endnotes

1. Four radiocarbon dates from burned silo rooms in two houses cluster very consistently. Short-lived barley and reed samples have calibrated two sigma (95.4%) confidence intervals of 1115–926 Cal BC (OXA-18966); 1115–925 Cal BC (OXA-19016) and 1108–913 Cal BC (with the 93.5% confidence interval being 1056–913 BC; OXA-19017). The one roof beam assayed has a two sigma interval of 1209–997 Cal BC (OXA-18967). If one accepts the stratigraphic evidence that al-‘Aliya was only occupied for a short period of time, then these dates support an 11th century BC construction date for the houses and an abandonment linked to burning the stored barley in the 11th or 10th century BC. These Oxford AMS dates using the IntCal 04 atmospheric curve supersede the problematic beta-counted dates from the Université of Laval published in Routledge 2000: 47–48, fig. 8.
2. Additional instances may exist in published form. Brown (1991: 194) describes two early Iron Age bowls (nos. 188, 190) with dripped red paint decoration in her catalog of ceramic

materials from the Karak Plateau survey materials. Another possible attestation may occur in the Tell Deir Alla Phase E materials (Franken and Kalsbeek 1969: figs. 59.55, 79). Another two may have been recovered from Worschech's survey of Dafyan, a chronologically mixed settlement near Karak (Worschech 1985: fig. 18.18.4–5; 1990: fig.10: 52–53). Another example may be present in a mixed-period burial cave at Umm Dimis, north of Balu'a (Worschech 2003: fig. 78). Swinnen (2009: figs. 22 and 23) published a rimless two-handled jar decorated with a painted geometric design on a white-slipped background from early Iron Age Lahun. This jar's design is only somewhat reminiscent of the decorated vessel design considered in this article and is therefore not included in the corpus.

3. It is possible to gauge the color of fire based on its temperature, between about 1200 Kelvin and 1930 Kelvin. A hotter fire would burn white and then blue; a colder one would burn red. Light simulations are growing popular in archaeological research; see e.g. Dawson *et al.* 2007; Papadopoulos 2009.

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