SOME THOUGHTS ON KHIRBET EN-NAḤAS, EDOM, BIBLICAL HISTORY AND ANTHROPOLOGY— A RESPONSE TO ISRAEL FINKELSTEIN

Thomas E. Levy
University of California, San Diego

Mohammad Najjar
Department of Antiquities of Jordan

Abstract

Israel Finkelstein's recent comments in Tel Aviv *regarding our paper on the Iron Age excavations at Khirbet en-Naḥas in southern Jordan contain numerous misinterpretations of the data. This short response outlines why those comments are erroneous. In particular, we describe why the formation of complex societies in Iron Age Edom did not occur under Assyrian tutelage.*

Israel Finkelstein's critique in *Tel Aviv* (2005) of our paper published in the British journal *Antiquity* (Levy *et al.* 2004) is riddled with misinterpretations of the data from our excavations at the Iron Age metal production site of Khirbet en-Naḥas (KEN; Fig. 1) in southern Jordan.[1] While we appreciate his attempts to model how metallurgy was controlled in the copper-ore-rich Feinan district during the Iron Age, with the exception of our *Antiquity* article, he ignores both the corpus of our previously published research in the area and the significance of the radiocarbon dates from both our research and that of our colleagues from the German Mining Museum who worked in Feinan during the late 1980s and early 1990s (Hauptmann 2000; Levy 2004a; Levy *et al.* 2004b; Levy *et al.* 2003; Levy, Adams and Shafiq 1999). The debate over a 'high' and 'low' chronology for the Iron Age of the southern Levant is certainly far from over (Levy and Higham *et al.* 2005). However, in Finkelstein's critique, he seems to be trying to force our data into his preconceived 'low' chronological model. Granted, the most recent Iron Age radiocarbon dates

[1] The authors are grateful to the 2002 excavation team: Co-Principal Investigator (and ceramics analyst) Russell Adams, Senior Surveyor James Anderson, Area Supervisors Yoav Arbel, Lisa Soderbaum and Elizabeth Monroe, GIS specialist and ceramics analyst Neil Smith, Archaeozoologist Adolfo Muniz, administrator Alina Levy, camp manager Aladdin Mahdi, and the many other staff, students and Bedouin workers who helped on the project. These excavations were part of the 1997–2002 Jabal Hamrat Fidan project sponsored by the University of California, San Diego and the Department of Antiquities of Jordan. We would like to thank Dr. Fawaz al-Khraysheh, Director General of the Department of Antiquities of Jordan and Dr. Pierre Bikai, former Director of ACOR, Amman, Jordan for their logistical support. Finally, we are grateful to the C. Paul Johnson Family Charitable Foundation (Chicago and Napa, CA) for their generous support.

(n = 27) for KEN processed at the Groningen laboratory may not have been available at the time that Finkelstein's *Tel Aviv* comment went to press (Higham *et al.* 2005; Levy *et al.* 2005b); however, there is a disturbing trend in Finkelstein's recent work to ignore data or simply force it into his model. This is most recently seen in his new book (with Neil Silberman) entitled *David and Solomon* (Finkelstein and Silberman 2006) where, writing about Iron Age Feinan, he states that "Another important source of copper is the area of Wadi Feinan, on the eastern margin of the Arabah Valley, approximately thirty miles south of the Dead Sea. Recent studies by German, American and Jordanian scholars revealed evidence there for continuous activity in the Iron Age, with one of the intense periods of mining and production dated to the late eighth and seventh centuries BCE" (*ibid.*: 174). Here, too, the major corpus of our publications concerning Feinan is not cited. Like the *Tel Aviv* critique, the new book simply misrepresents our research (the American, Jordanian and German teams) since, to date, there simply are no dated metal production deposits in the Feinan district dating to late 8th and 7th centuries BCE (Hauptmann 2000; Higham *et al.* 2005; Levy *et al.* 2004; Levy, Najjar and Higham *et al.* 2005; Levy *et al.* 2005b). This is especially true of Khirbet en-Naḥas, where most Iron Age radiocarbon dates have been produced and all metal production deposits date from the 12th–9th centuries BCE. In what follows, we will address some of the problems raised in Finkelstein's interpretation of our work at KEN.

WHO CONTROLLED IRON AGE METAL PRODUCTION IN FEINAN?

Most productive in Finkelstein's critique is his interesting hypothesis that the Late Iron I–Iron IIA metal production activities at KEN were controlled from the Beersheba Valley's Tel Masos 'chiefdom'. This suggestion addresses a deep-time process of local vs. non-local control of Feinan metal production, which was first suggested by Levy and Shalev (1989) to have begun during the Chalcolithic period around 4200 BCE. While there is still no scholarly consensus on the shifting pattern of local vs. external control over Feinan metallurgy through time, there is clearly a deep-time pattern of oscillations in power played out in this important natural resource zone. It was Knauf (Knauf-Belleri 1995) who first suggested that during the Iron Age, Tel Masos (Khirbet el-Mshash) controlled Feinan copper production during the 12th–11th centuries BCE and that it represented a 'tribal metallurgical industry'. Knauf's insights into the history, structure and cultural connections between Iron Age Feinan and neighbouring areas are most impressive. However, it was the lack of hard Early Iron I–Iron IIA archaeological data from Feinan that led him to look to the Beersheba Valley as the source of metallurgical control during this

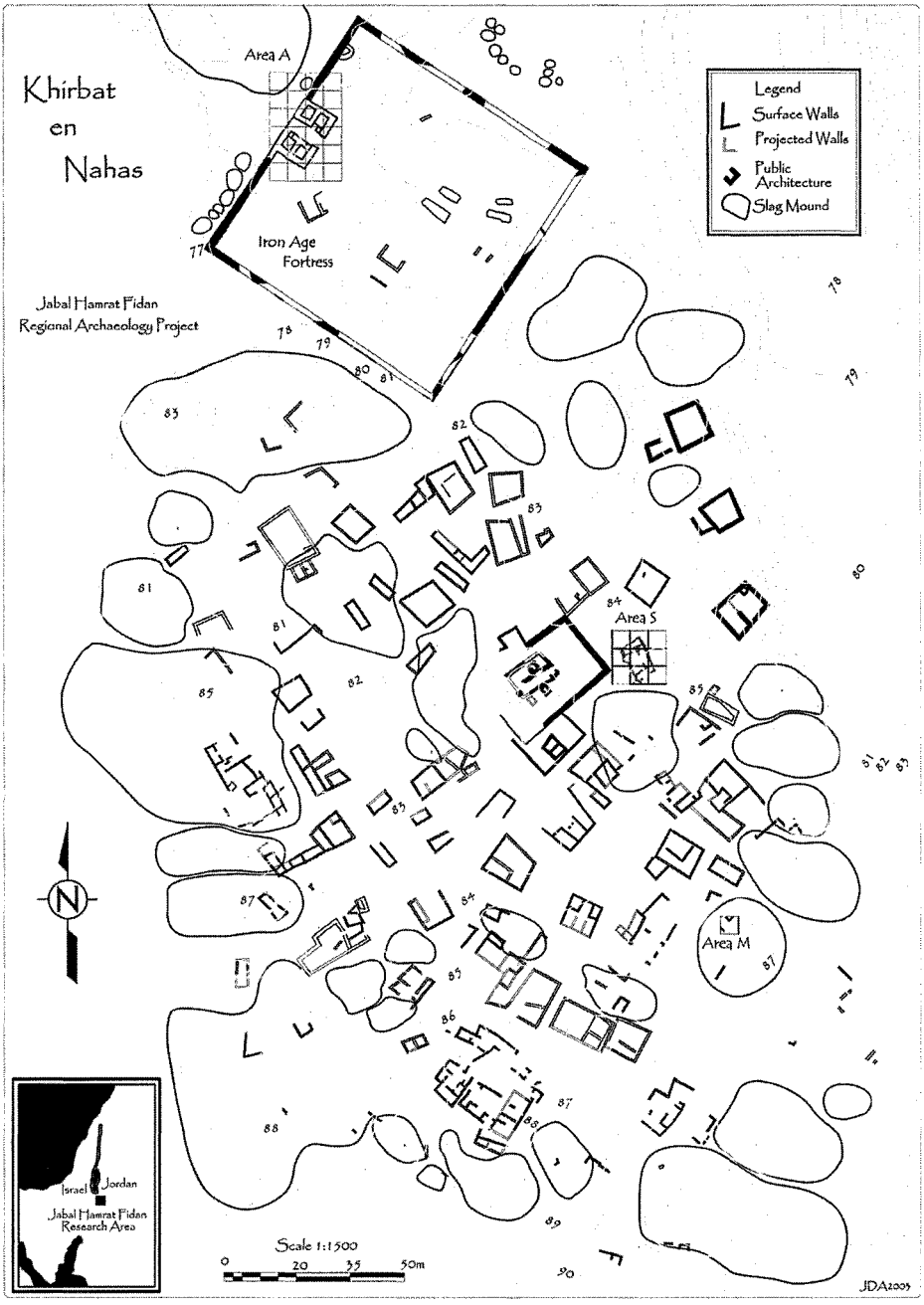

Fig. 1. Topographic map of Khirbet en-Naḥas (Jordan) showing the distribution of architectural features at the site (map by J. Anderson, JHF Project).

formative period and not locally in Feinan itself for answers. With the new excavations at KEN and other excavations in Feinan, this image of external control is not convincing. Until the Jabal Hamrat Fidan Project (1997–2002), archaeological investigations in Edom focused primarily on the *highland* plateau with little large-scale work having been done in the *lowland* Feinan district. Based on this old highland bias in the archaeology of Edom, Finkelstein (2005: 121) concluded recently in this journal 'that the few Iron I sites of the Edomite highlands represent only half of the Khirbet en-Naḥas sequence (the Iron I), while the much stronger Late Iron I–Iron IIA activity in the Beersheba Valley, mainly at Tel Masos, fits perfectly the period of occupation at Khirbet en-Naḥas'. Although more Iron Age excavations are needed in the Feinan district to build tighter chronological frameworks to analyze settlement patterns, the surveys carried out along the Wadi Fidan, Wadi Feinan, Wadi al-Guwayb and Wadi al-Jariyeh show extensive evidence of Iron I–IIA occupation in the region and a much more complex picture that cannot be solved by Finkelstein's external 'Masos chiefdom' model. The Feinan survey data can be found in a number of sources (Barker *et al.* 1998; Barker *et al.* 1999; Hauptmann 2000; Homan 2002; Levy *et al.* 2001; Levy *et al.* 2003).

THE 10TH CENTURY BCE IS ALIVE AND WELL IN THE EDOM LOWLANDS

Since 1997 (Levy, Adams and Shafiq 1999) and more recently (Levy *et al.* 2005a), excavations at different Iron Age sites in the Feinan district have shed new light on its social and economic history. An Iron Age cemetery at the Wadi Fidan 40 site has revealed one of the largest mortuary complexes for that period in the southern Levant. Based on surface remains, it is estimated that there are over 3,500 stone circle and cist tombs in the cemetery. To date, 287 tombs have been excavated by our team. The circular character of the graves, the absence of permanent village sites within a 5 km radius of the site (Levy *et al.* 2003), the paucity of ceramic vessel offerings, the extra-biblical textual data from Egypt (Kitchen 1992) and other attributes all indicate that the buried population in this cemetery represent a nomadic society. To date there are a total of 8 radiocarbon dates from the site—all from short-life pomegranate (*Punica granatum* L.) fruit seeds or rind. The 1997 excavations produced a date that spanned the late 12th to 9th centuries BCE (Beta-111366–calibrated results with 2 sigma 95% probability cal BC 1130–815). The 2004 excavations in the cemetery tested 6 different pomegranates found as an offering in one cist grave (No. 59, Area A, Fig. 2) that provided an average date range with 2 sigma or 95.4 % probability of cal BC 1005–925 or the 10th century BCE. An Egyptian stamp seal found in another grave (No. 91, Area A) examined by Brandl and Münger dates to the transition between the Iron Age IB and IIA; in Egyptian terms, mainly Dynasty 21, *ca.* 1075–945 BCE or

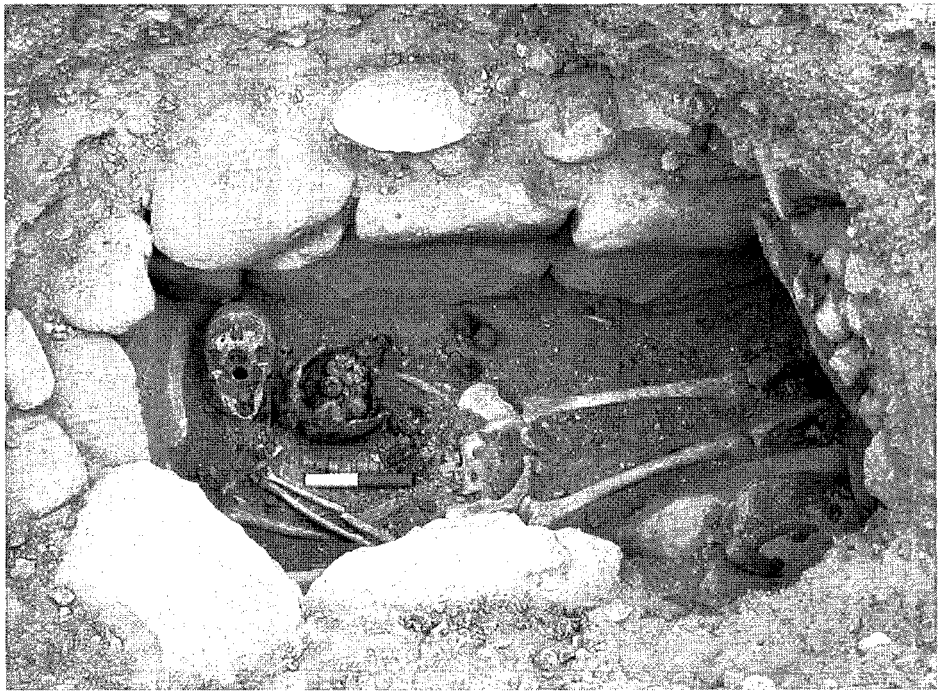

Fig. 2. Overview of Grave 59 excavated in the Wadi Fidan 40 cemetery, 2004 season. Note the wooden bowl filled with pomegranates—six were subjected to AMS dating at the Oxford laboratory. High precision radiocarbon dates provided an average date range with 2 sigma or 95.4 % probability of cal BC 1005–925 or the 10th century BCE (Photo by T.E. Levy, UCSD Levantine Archaeology Laboratory).

the late 11th to 10th centuries BCE. Similar Egyptian seals have been found at Tell Abu Hawam, Gezer, Tell el Farʿah (S) and Megiddo (Levy *et al.* 2005a).[2] Thus, the 10th century BCE represented by the local nomadic population buried in the Wadi Fidan 40 cemetery is 'alive and well' in Feinan.

CONCERNING THE KEN RADIOCARBON DATES

Finkelstein raises some doubts regarding different aspects of our work, including our stratigraphic interpretation of the fortress and the reliability of radiocarbon dating techniques in general and specifically in an arid zone at Khirbet en-Naḥas. Although we would partially agree with some of his concerns, we maintain a number of points that are contrary to Finkelstein's assertions. Our stratigraphic data indicate:

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[2] The seal was initially dated by Brandl and later published by Münger in Levy *et al.* 2005a. The author is grateful to both of these scholars for their observations that provide archaeological confirmation of the early Iron IIA dating of the Wadi Fidan cemetery.

(1) The fort at Khirbet en-Naḥas (Stratum A3) is 'sandwiched' between two metal-production horizons—Stratum A4, which represents virgin soil with some evidence of metal production activities, and the later Strata A2b–A2a. The A2 strata represent massive metal production activities that occurred after the gatehouse went out of use.

(2) The fort *was not* cut into piles of copper slag deposits (see Fig. 3). The heaps of copper industrial waste seen in our published aerial photograph (and mentioned by Finkelstein) accumulated in and around the fort primarily during the second metal production horizon. The dating of the fortress is discussed in more detail below.

As for the reliability of the radiocarbon dates, we would like to mention a few points: Although all our dates came from charcoal samples, the impact of the 'old wood effect' should not be stressed for at least three reasons:

Fig. 3. Excavations along the exterior of the gatehouse and fortification wall at Khirbet en-Naḥas, Jordan. A sounding was made to virgin soil in front of the passageway (indicated by the 2 m-high vertical survey rod in photo) that runs between the two pairs of guard rooms that make up the gatehouse. Only two of the guard rooms (on left of photo) have been excavated. The exposure along the fortification wall extends for approximately 30 m. As seen in the photograph, it is clear that the construction of both the gatehouse and the fortification wall did not cut through existing slag mounds. Rather, early- to mid-9th century BCE slag mounds accumulated after the construction of the fortress at Khirbet en-Naḥas (photo by T.E. Levy, JHF Project, UCSD Levantine Archaeology Laboratory).

(1) As stated correctly by Finkelstein, the quantity of fresh wood needed at an industrial site such as Khirbet en-Naḥas must have called for an on-going supply (Engel 1993). The need for large quantities of fresh wood would have minimized the 'old wood effect'.

(2) The nature of the fuel used in the furnaces at KEN argues against the presence of large amounts of 'old wood' at the site. More than 98% of the Iron Age radiocarbon samples we processed were from the leafless tamarisk tree (*Tamarix nilotica*)—which is a richly-branched evergreen tree, up to 1 m in diameter with numerous leafless twigs (Zohary 1982: 11)—many of which were exploited for charcoal. According to Zohary (*ibid.*) tamarisk trees were planted by the Bedouin in the Negev Desert for their shade and the soft branches that could be eaten by flocks. On the Coastal Plain, Palestinian villagers propagate the tree by cuttings. Even though the tree is indigenous in the dry wadis of the Arabah/ Arava Valley (Danin 1983), based on the ethno-botanical evidence cited here, the rapidity at which the tamarisk grows (Goldsmith and Smart 1982), and its adaptation to the local wadi environment around KEN, it is possible that *Tamarix nilotica* was intensively propagated and carefully harvested by the Iron Age inhabitants of KEN for the production of much-needed charcoal.

(3) Finally, as for our part, and to get away from the problems of old wood and 'long-life' samples inherent in charcoal, we asked M. Robinson, a paleobotanist at the Oxford Museum of Natural History, to cut out the two most recent (outer) growth rings bordering remnants of bark on each of the tamarisk charcoal samples. As the charcoal often came from small branches, the samples represented relatively short periods of growth—often less than 50 years. By culling out the outermost rings and submitting the samples to AMS dating, we effectively changed our 'long-life' charcoal samples into 'short-life' ones. This procedure was followed for samples submitted to both the Oxford and Groningen radiocarbon laboratories (Higham *et al.* 2005).

As for the dates themselves: 1) the most important 'new' chronological and cultural implications of the radiocarbon results are that our dates span the 12th–9th centuries BCE. The breakdown of the dates shows two peaks of copper production activities in the 12th–11th and 10th–9th centuries BCE (Levy *et al.* 2004; 2005; Higham *et al.* 2005); and 2) There is no evidence for 8th through 6th century BCE metal production at KEN—the period traditionally associated with state formation in Edom (Bienkowski 2001; Porter 2004). In short, Finkelstein seems unwilling to acknowledge the new data from our excavations and analyses of Iron I–Iron Age IIA occupation in the Feinan district.

SOME COMMENTS ON HISTORY AND ANTHROPOLOGY

We realize that our work (1997–2004) in Feinan is far from complete. We also recognize that the key to understanding Late Iron I–Iron IIA metallurgical control in Feinan will come not only from larger-scale archaeological investigations at Khirbet en-Naḥas, Khirbet al Jariyeh and Khirbet Guwayb but also from the massive site of Khirbet Feinan (biblical Punon)—which as far back as the 13th century BCE was referred to by Ramesses II as '*PWNW*' (Görg 1982) and in the 4th century CE by Eusebius of Caesarea, in his Onomasticon, as *Phainon*, the city of the Edomite princes (Freeman-Grenville, Chapman III and Taylor 2003: 93). Such an excavation will help clarify the role of nomadic societies in the Iron Age history of southern Jordan and the symbiotic relationship that must have existed between the lowlands and highlands of Edom. It is the lack of this information concerning the role and importance of nomadic societies in Feinan that has led Finkelstein to suggest that the only source of human population that could have controlled metal production at KEN and the Feinan district was either the Edomite highlanders or the Beersheba Valley folk to the northwest, as if control of copper production in the Feinan area could not be attributed to nomadic groups centred in the Feinan district. We think that the key to understanding the early history of Edom in the Iron Age is to be found in Feinan itself and the way to solve most of the issues is to start by conceptualizing what is meant by the term 'state' for this part of the ancient Near East and to begin looking for answers in this same area.

Implicit in Finkelstein's critique is recognition of the need for researchers dealing with state formation in Iron Age Edom to clarify what we all mean by the term (ancient/archaic) state. Anthropological archaeologists have grappled with this problem since the advent of the neo-evolutionary 'school' of anthropological research (Harris 2001). Marcus and Feinman's (1998) edited volume concerning *Archaic States* highlights the plethora of definitions and models that early and contemporary scholars use to model ancient state level societies. According to these anthropologists, who spearheaded a major Santa Fe School of American Research seminar on this topic, most of the participating anthropological archaeologists agreed that archaic states (vs. modern nation-states) "were societies with [minimally] two class-endogamous strata [a professional ruling class and a commoner class] and a government that was both highly centralized and internally specialized. They had more power than rank societies, especially with regard to waging war, exacting tribute, controlling information, drafting soldiers, and regulating manpower and labor". Are these archaeological correlates of an archaic state present in Edom (or any other of the Iron Age 'statelets' such as Israel, Philistia, Aram, Moab, etc.)? LaBianca and Younker (LaBianca 1999; LaBianca and Younker 1995) recognized a decade ago that to understand the evolution of complex Iron Age societies in Transjordan,

one had to focus on the role of the anthropology of pastoral nomadic societies. The limited distribution of land suitable for farming and the preponderance of marginal semi-arid and arid land east of the Jordan River have profoundly influenced the successful adaptation of pastoral nomadic—rather than agricultural—societies to the Jordanian environment throughout history (Dutton and Shahbaz 1999; Musil 1907; 1928; Rowe 1999). Thus, to begin to understand the nature of Iron Age societies in Edom, Moab (Routledge 2004) and Ammon, we must build social and historical models that are rooted in nomadic pastoral social systems. Bienkowski and van der Steen (2001) develop this idea for the very end of the Iron Age in Edom. What they do not address is the relationship between highland and lowland Edom and the processes of fusion and fission that characterize pastoral societies that are crucial for modelling the highland–lowland symbiotic relationship. It is critical that a research initiative be launched to establish an objective radiometric dating system for highland Edom that will enable comparison with the copper-ore-rich lowlands. Similarities in ceramics found at KEN (Adams, Smith and Levy forthcoming) and the highland sites, and jewelry found in the Wadi Fidan 40 cemetery, Tawilan and KEN already point to important highland–lowland relations that need clarification. The symbiotic relationship between these two neighbouring geographic zones in Edom is still seen among the Bedouin today, such as the Amarin tribe, where many members spend the hot summers in the highlands near Petra and Shawbak and the winters down in lowlands around Feinan.

For now, the lowlands of Edom and even the Late Iron Age highland settlement system lack unambiguous evidence for a two class-endogamous strata and a government that was both *highly centralized* and internally specialized with the ability to wage war, exact tribute, control information, draft soldiers and regulate manpower and labour. Thus, there may never have been a *local* 'archaic state' in Edom, but rather societies that grew and contracted due to processes of fusion and fission through time from tribal (segmentary) to complex chiefdom level societies. The ethnographic record shows that complex chiefdom organizations could easily construct monumental structures such as hill forts, megaliths and other labour-intensive features (Johnson and Earle 1987; Kirch 1991; Renfrew 1973). Having had only one large-scale excavation season at KEN, we are still unable to determine the ethnic group responsible for its construction, most likely during the 10th century BCE, or its 'decommission' during the 9th century BCE. If we rely on the biblical authors (as Finkelstein does, 2005: 120), an early 10th century BCE construction would link the fortress to those passages related to David's construction of garrisons in Edom (2 Samuel 8: 13) and support Glueck's hypothesis over 60 years ago (Glueck 1940) for Iron Age Edom. If the fortress construction dates to the mid-9th century BCE, it could have been founded by the local Edomite population following

a revolt against King Jehoram of Judah (2 Kings 8: 20), *ca.* 848–841 BCE (Rogerson 1999). However, the fortress at KEN cannot be linked to the Assyrians. Finkelstein's contention (2005: 123) that the fort was constructed after the 9th century BCE and that our published aerial photograph indicates that the fort was built on top of the site and cut into slag deposits is, as shown above, incorrect. There are no 8th century BCE or later radiocarbon dates from KEN. No evidence of trenching into slag deposits was found during the excavations along the fortification wall or gatehouse; rather, these deposits accumulated after the construction of the fortress. And the smelting debris found inside the rooms of the gatehouse was found on floors associated with preserved room walls over 2 m high that contained evidence of soot from 9th century BCE smelting activities when the guard rooms ceased their military function (see Fig. 3). Thus, Finkelstein's linkage of the fortress at KEN to the 'late 8th–7th century BCE' (*loc. cit.*) simply does not work.

As noted above, in terms of the actual Iron Age people who lived in the lowlands of Edom, the primary data we have for them comes from the cemetery at Wadi Fidan 40 (Levy *et al.* 2004b). The Egyptian textual data from *ca.* 1500–1100 BCE refer to the nomadic people of Edom as the Shasu (Kitchen 1992; Ward 1992). As Bartlett (1992a) points out, a simple concordance check of the terms 'Edom', 'Seir' and 'Esau' in the Hebrew Bible shows the development of the 'Kingdom' of Edom somewhere to the southeast of Judah originating from a group of tribes whose eponymous ancestor was Esau. Later, the biblical writer of 1 Samuel (21: 7) refers to the Edomite Doeg, the chief of Saul's herdsmen—an allusion to the connection between Edomites and pastoral nomadism in the period of the Judges on the eve of David's rise to power. Thus, the Israelite writers of the Hebrew Bible refer to the region as Edom and the people as Edomites. However, lacking new epigraphic data, we still do not know how these Iron Age people of southern Jordan referred to themselves. Nonetheless, the pastoral nomad economy rings through for the people of Iron Age Edom in both the Egyptian and biblical texts. If one were to characterize the social organization of lowland Edom based on the Wadi Fidan 40 cemetery remains (Levy *et al.* 2004b; Levy *et al.* 2005a) perhaps they were most similar to the complex societies described by anthropologist Khazanov as 'Nomadic Chiefdoms' with specific Near Eastern and Eurasian steppe sub-types (Khazanov 1994). Using a range of sources, Khazanov (*ibid.*) shows that nomadic chiefdoms share a number of characteristics: 1) hereditary social differentiation, 2) limited evidence of centralized government, 3) limited functions of the supreme chief (mostly linked with legal procedure, ceremonial and external relations), 4) absence of coercive power to enforce leadership decisions, 5) absence of means to avert social fission and 6) in reference to the segmentary foundation of these societies, "each nodal point in the structure has an extra replica of the official at the centre of the system" (Cohen 1978).

The evolution and crystallization of power in nomadic chiefdoms differ from sedentary chiefdoms primarily because they emerge and grow as a result of interaction with the outside world, that is, other ethnic groups or stronger polities such as the ancient Egyptians, Assyrians or Israelites. One of the major differences between ancient Israelite and Edomite genealogies seems to be the role of cities. In Israelite tribal genealogies, a significant portion of the 'people' are in reality settlements both small and large. The names in Genesis 36 (referring to the genealogy of Esau/Edom) are linked more to people with the eponymous ancestors reflecting a population more akin to those not tied to settled towns (Bartlett 1992b). As anthropologists and early ethnographers such as Musil (1928: 59, 277) have shown, only when external factors came into play did political organization grow and centralization of power take place among the Near Eastern Bedouin. This is what happened among the Rwala Bedouin of the 19th century CE when the Sha'lan sheikhs became extremely powerful after they seized control of a large part of the Hajj pilgrimage route to Mecca and established multifaceted relations with the Ottoman Turkish authorities in Damascus and other complex chiefdoms or 'sheikdoms' in the Arabian peninsula. In the case of Edom, when the centre of eastern Mediterranean copper production in Cyprus collapsed at the end of the Late Bronze Age (*ca.* 1400–1200 BCE), the importance of Edom's Feinan copper—which had flourished previously during the Early Bronze Age (*ca.* 3600–2000 BCE [Adams 2002; Levy *et al.* 2002])—was resurrected. The local control of lowland Edom copper production at the beginning of the Iron Age (along with trade) probably provided the main catalyst for the emergence of the Edomite 'super chieftains'. If complex copper mining and processing occurred as early as the 12th–10th centuries BCE in Edom, as our new excavations at Khirbet en-Naḥas indicate, there probably was a developed Edomite 'super chiefdom' organized as a conical clan-common descent group in Feinan that was ranked, segmented along genealogical lines and was patrilineal in ideology where political organization went well beyond the single community at this time. If so, the accounts of Edom in the Bible, especially of the conflicts with David, have a new plausibility that must be tested.

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