Upon a cursory glance at metallurgy, the ritual and technology involved in the process seems almost dichotomous if not contradictory. But, as seen with both Killick and especially “The Last Ironmaster,” these two polar ideas are more intertwined than often recognized or even accounted for. Killick in particular does an excellent job of defining these different approaches less as abutting each other, one being better than the other, but by rather placing them into their larger context and purpose. He writes, “when we want to compare technological accomplishments in different cultures, or even at different times within our own culture, we need to take into account the intentions of the practitioners since these may be quite different from those that we take for granted” (Killick 243). With this foundation of placing archaeological metallurgy into a larger context, archaeologists can now be critical of a broader discussion of the often-excluded ritual, non-material, aspect of metallurgy. Two articles in particular, “Slags and the city: early iron production at Tell Hammeh, Jordan, and Tel Beth-Shemesh, Israel” by Veldhuijzen and Rehren and “Cross-cultural Minoan networks and the development of metallurgy in Bronze Age Crete” by Gale and Stos-Gale offer different approaches in examining metallurgy in their contexts, each providing for an opportunity of the greater discussion of non-technological practice in their respective setting.

Similar to that of Killick, Veldhuijzen et al. takes two contemporary sites, one in Israel and the other in Jordan, and places them into the context of the metallurgical process. The site of Tell Hammeh in Jordan is attributed with iron smelting and primary smithing (Velguijzen). The authors of the article focus primarily on the evidence collected to support their claim to the site being one of smelting. But, it does also address some preliminary “ritual” practices. For example, the exclusion of the process away from settlement, near resources, and operating on a seasonal basis all mimic non-technical attributes of metallurgy found in both the Adirondack and Malawi smelting customs addressed in Killick. However, the authors do little to expand upon these connections. They leave loose ends, speaking to the supposed scale of iron production being probably non-regional based, but not addressing the context to the people of Tell Hammeh viewed the process in their respective culture. Was the smelting of iron viewed as something sacred and contingent on external factors out of the control of its citizens (like Malawi), or was it rather viewed more similarly to that of the Adirondack model of a large-scale production for the purpose of wealth/trade. With the site of Tel Shemesh primarily responsible for secondary smithing, this question of trade and cross-cultural contact obviously arises. However, the authors do little to elaborate on this connection by just stating the obvious. By examining the contact between these two sites that played different yet interconnected roles, the ritual nature of metallurgy could be teased out, thus creating a more complete view of smithing and smelting in the Levant.

Unlike Veldhuijzen et al., Gale and Stos-Gale do not place their provenance study of Minoan metallurgy in Bronze Age Crete into any sort of ritual context. The “cross-cultural” title initially deceives the reader into thinking a greater discussion of these complex networks in the Aegean would be elaborated upon and placed into a greater context. While the author does comment in some depth the Provenance of metals needed in Crete across the Aegean, a greater discussion or the actual non-technological ritual impact on the society is missing. The authors failed to address how the Minoans treated these foreign materials and the scale of their production. There was no discussion on how the inevitable trade between cultures occurred. Besides the statement of “cross-cultural” contact, the article is missing the driving forces of interactions. The article would be greatly improved if elements of ritual were discussed. How the metals were used would open up insight to how they were traded and in which capacity. Also the site of metallurgy could be significant on the island. Was it close to where the metals were being imported or was it located in a craftsman town? Who are the people actually working with these metals viewing, respecting, and working with them? All of these questions, and more, are relevant to the fabric of understanding metallurgy and the “cross-cultural” connections of Minoan networks in Bronze Age Crete.

One integral point that Killick mentions is that “beliefs had definite practical consequences.” He widens this concept to the Malawi bloomery production and refutes the belief that it is in a way primitive, but rather just fitting into its own social setting. By discussing the ritual and non-technical context of metallurgy in an archaeological setting, archaeologists have the opportunity to gain not only perspective on the social setting in metallurgical cultures, but also an opportunity to see beyond numbers, charts, and graphs to understand a much deeper social history of the human strand of existence.

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