

A Brief History of Hacksilber Project Research

Christine M. Thompson, September 2017

Miriam S. Balmuth and Christine M. Thompson initiated the Hacksilber Project to investigate ancient metal hoards and the origins of coinages. Our initial findings and those of scholars invited to participate were published before 2004. These include the identification of the Cisjordan Corpus of silver treasures as the first body of metallic evidence recovered from the Near East (continental Asia) to correlate with ancient accounts of 'Phoenician' voyages to the metalliferous coasts of the distant west between 1200 and 800 B.C. that were aimed, above all, at the extraordinary quantities of silver available there. Continuing project research has since sought to integrate this recognition with standing evidence in a variety of fields and disciplines, and then to advance in the light of the capacities and limitations of the latter, including especially the results of ore-provenance studies of reliable metallic artifacts dated before 2008.

More generally, the hoards organized into this Corpus have been recovered from fourteen sites between Akko and Arad on 'this side' (L. *cis*) of the Jordan River, and date between 1200 and 586 B.C. In the light of frequency-specific sequencing, they have provided as yet unparalleled evidence for the unprecedented proliferation in the monetary use of silver in Cisjordan during this period (the region's Iron Age), and established a material foundation for appreciating why more than 100 cities in the Greek world chose to mint their earliest coinages in silver around 500 B.C. Where contemporary scholarship had characterized these first coinages as a development *ex nihilo*, the silver found in Cisjordan presented immediate material and conceptual antecedents, and allowed us to substantiate a Phoenician role in communicating the value of and concepts associated with silver as a monetary metal from the ancient Near East (where these had a much longer and more diversely documented history) to the West.

Moreover, traditional types of ingot-ornaments including coiled rings, bracelets and fragments of torques, as well as the bundles of 'sealed silver' found in the Cisjordan Corpus and the comparanda from Tell el-Ajjul already indicated metals-based communications between the wider Near East, Egypt and Europe, while pre-coinage metals on the islands of Euboea, Sicily, Crete and Cyprus indicated their participation in the exchanges between East and West that proved to be so transformative. The impact is evident partly where silver coinages outmoded currencies of bronze and iron (cauldrons, tripods and spits for roasting meat) as political capital and reflect a host of social, political and cultural transformations that re-shaped the western tradition.

At the same time, it was clear that the coinages of individual cities reflected localized ideologies and cultural differences, and that a complex of traditions contributed to their development and diversity. Recognition of this initial proliferation of monetary silver across the Mediterranean provided a background against which such diversities and anomalies came into relief, and the earlier traditions accumulated significance. Noted anomalies included the billon coinage of Lesbos, the 'pyramid' pieces of bronze from Acragas on Sicily and 'arrowhead coins' from Thrace.

Between 2005 and 2007 it became clear that such traffic in metals had a Bronze Age (pre-1200 B.C.) pedigree, as our continuing research combined ancient textual and material evidence to identify, for example, that the Phoenicians cooperated with European 'elites' who commanded diverse metallic resources and used them to identify themselves 'heroes'. Epic poetry and material remains from the Greek world combined to indicate not the absolute, but the traditional, characterizing and formative roles of gold, bronze and eventually iron in the construction of such heroic identities and the operations of their economies, with the Mycenaean palaces and the island of Euboea having central roles in the Greek world before and after 1200 B.C., respectively.

At the same time, ancient texts and material markers of such heroic identities (weapons, ornaments like arm rings, spirals, torques and fibulae, ornamental weapons, feasting and cultic equipment including tripods, cups and cauldrons, varying expressions of 'horsepower' like chariots, horse-sacrifices and wheel symbolism that could be conflated with celestial symbolism, tumuli or kurgans

and cremation burials, for example) had linked them, sometimes for decades and centuries in scholarship, to their counterparts in other regions and periods. Spits for roasting meat, for example, have attested to such connectivity from the European Atlantic as far north as Britain to the Mediterranean as far as east as Cyprus, where other finds connect to locations still farther and more diverse. The evidence for such traffic has been especially clear from around 950 B.C., with some of it so well known to Mediterranean archaeologists that it appeared in undergraduate textbooks.

Finds of bronze bowls like the 'orientalizing' examples found at Berzocana in Extremadura and at Sant' Anastasia in Sardara on Sardinia can speak to the coincidental interests and influence of Phoenicians and heroic elites in regions where potentially very important deposits (like the tin of Extremadura) are known, and where metal production and metals-based connectivity are attested not on an urban scale, but a complex nuragic one. At Sant' Anastasia heroic economic and sacred spheres overlapped, and the Berzocana bowl was coincidental with two gold torques.

Such evidence has correlated with the ancient texts that had been indicating the relevance of the 'Atlantic route' to metals-trade all along. Herodotus' sources had located the 'Tin islands' (or Cassiterides) somewhere in the northern European lands 'farthest away toward evening' (3.115-3.116) and Strabo (3.5.11) understood that these tin and lead-supplying islands somewhere north of modern Galicia were inhabited by men who wore long black cloaks and carried staves, and were tapped early on by the Phoenicians sailing via today's Cádiz who concealed the passage from everyone. And it has always been known, at least within the field of Classics, that the ancient accounts generally located Tartessos in the southwestern Iberian Peninsula, along with the Celts who were among the 'most westerly' inhabitants of Europe and lived beyond the 'Pillars of Hercules', today's Straits of Gibraltar (Herodotus 2.33 and 4.49). Likewise, well-known mining centers like Rio Tinto and Tharsis have been understood as part of the Tartessian region in modern scholarship.

Elsewhere, researchers had highlighted weaponry, ornaments and other metallic implements (like razors or axes) associated with 'elites' that linked them on a typological basis from the Greek world, where we know to identify them as self-styled heroes, and the eastern Mediterranean to Atlantic France, the Italian mainland including Alpine zones, Sicily, Sardinia, Tyrrhenian Italy, the Iberian Peninsula, the Balkans and Central Europe, where, again, the finds connected 'elites' in these regions to their counterparts beyond. The typological framework for appreciating such networking during the centuries surrounding 1200 B.C. has been largely documented by Claudio Giardino who utilized the evidence to characterize a *koinè* in which the elites of the Aegean (whom we call heroic) were especially or conspicuously connected to their counterparts elsewhere who also commanded gold, bronze and iron and had ores in their territories. It must be emphasized that our research has not identified the networks typologically, but instead appreciated the propriety in ascribing shared heroic identity to such resource commanding elites and their economies.

That is, one advantage in approaching such geographically and chronologically expansive material evidence from pre-literate, semi-literate or non-literate societies in sight of ancient Greek epics, and from there with the opportunity to incorporate related heroic textual traditions at large, comes from the ability of the textual traditions to characterize and articulate heroic identities (for which each language has its names) and practices (feasting, funerary rites and so forth) as such. The Greek texts especially have illuminated the ways in which metals were incorporated in the construction of heroic identities as they became foundational to the maintenance and development of their political power.

Examples are evident in the typological relationships between ornaments and swords in the Mycenaean Greek world and the Carpathian Basin, including during the latter's Early Bronze Age, but the heroic textual traditions connect and reach across much more vast expanses of time and space, and the relatable material remains even farther and wider. Along with better-known exchanges involving Crete, Anatolia, Cyprus and Egypt, this is exemplified where others have detected communication with the Balkans, Carpathians, Black Sea and Bulgaria –with links reaching back to the Varna Necropolis – in the genesis of Aegean gold and bronze ornaments and their increasing elaboration during the Bronze Age into forms that were eventually articulated in Homer as heroic

markers, and by then along with iron. In turn, where certain metallic items may not be identifiable as heroic in the texts, their occurrence in material contexts understandable as heroic from other forms and rites helps identify them as such. At the same time, the recognition of gold, bronze and iron as foundational to heroic economies around 1200 B.C. highlights the more exceptional occurrences of heroic silver and the importance of this metal's more variable and shifting economic status.

That is, there has been no question that textual, metallic and other material remains have already connected heroic elites expansively to their counterparts and relatives across time and space, but the material connections had regularly and nevertheless been established in ways that fell short of appreciating their shared heritage as heroic or their heroic heritage as shared. This has been particularly characteristic of research in pre-history where, before and after 2007, they were understood as 'elites', 'chieftains', 'warriors' 'hunter-warriors' or 'ruling classes' who exchanged 'prestige goods' or 'status enhancing objects'; we also find them and their remains appreciated according to invented heuristics like 'fighting and feasting men' and again according to invented names for archaeological or material cultures (as for example, the Únětice, Tumulus and Urnfield cultures, the Villanovans, and the Timber-grave, Turbino and Andronovo cultures) that would have meant little or nothing the peoples whose related remains we have endeavored to appreciate.

In the most abbreviated terms, it became progressively clear that the intellectual accommodation of our findings and their implications, as well as their publication, called for the (re-) evaluation and integration of standing knowledge from diverse disciplines and fields, and the reconfiguration of conceptual frameworks that had prevailed in scholarship at large, as well as within the Hacksilber Project itself. Such paradigms had, for example, organized and related extant evidence according to the understandings that Phoenician metals-traffic in the metalliferous zones of the western Mediterranean was generally contemporaneous with their 'colonial' settlements that were certainly established there during the 8th to 6th centuries of the first millennium B.C. Likewise, research through 2008 attributed Phoenician westward expansion to the political pressures from the 'growing Assyrian Empire, which especially from the 9th century BC onwards forced cities such as Byblos, Sidon, and Tyre to pay tributes'; instead of aligning extant evidence also with Solomonic and earlier traditions. Accordingly, the 8th century was a period in which the accumulation of wealth 'was expected' (R. Müller personal communication 2008; Bartelheim 2007; and Kletter and Brand 1998, 150 and Gitin 1998, 176 as cited in Thompson 2003, 92). And as we have stated above, the general location of Tartessos on the southwestern Iberian Peninsula has been recognized since antiquity, but confusion and error occurred especially where prevailing scholarship equated it singularly with the Tarshish of biblical and Akkadian accounts. The location of the latter had been lost, confused and perhaps even deliberately obscured since antiquity, along with adequate appreciation of Sardinia's pivotal contributions to early civilizations.

It was also possible to encounter the notions that the long-distance sourcing of silver in the first millennium B.C. was unprecedented and unparalleled in terms of other European and Atlantic metals, and that, as of 2007, research was indicating ever more strongly that the ore deposits in Afghanistan and central Asia supplied most of the needs of the Near Eastern and eastern Mediterranean area during the 3rd and 2nd millennia B.C. (again Bartelheim 2007, 287 with references). There it was thought that complex and sometimes far-reaching metallurgical operations should be associated with complex urban societies, and not the tribally organized societies of central Europe.

Meanwhile, as the findings that emerged from our research had shown in 2003 that the silver-ores of the western Mediterranean had developed a strong enough appeal in the Near East to motivate long-distance traffic connecting the two regions before the 8th century B.C., it seemed necessary to begin evaluating the Cisjordan Corpus in light of the fabled metallic riches of Solomon, David, and the Phoenicians reportedly sourced in the remote lands that some had regarded (even along with Solomon's Kingdom) as largely or wholly fictional, or as otherwise irrelevant. The evidence from the Cisjordan Corpus certainly called for consideration of its relationship(s) to Tartessos and Tarshish, but if these locations, then also other fabled and hidden regions associated with early European and Solomonic metals-trade, including Ophir with its gold supplies, the Cassiterides and European gold

sources that were protected by griffins and located near the territory of one-eyed horse-riders (Herodotus 4.13.1 and Aeschylus *Prometheus Bound*, 802-809).

In fact, the amount of extant information with which we might have aligned our findings and used to evaluate them was more than considerable; this includes the results of ore-provenance studies provided by Z.A. Stos-Gale to whom we entrusted our Hacksilber samples for her analyses generated in the light of a large database of 'diagnostic lead isotope fingerprints' of ores and metals, the construction of which took more than 20 years. It reportedly contained ore-samples collected not from some, but all known European and Levantine ore deposits (see Stos-Gale in Balmuth 2001 ed.). The author relied upon Stos-Gale's published statements as true through 2007, and was then left to wonder why Iberian ore-origins were so rarely and belatedly identified in the sampled Hacksilber from the Cisjordan Corpus. It has since remained impossible to verify and document that the results received were consistent with Stos-Gale's statements of ability, means and procedure. This has required further discussion, and we look forward to further disclosures that should help.

It may suffice here to say that the potential value in the recognition of the resource-commanding elites of the sort mentioned above as heroes, who had already, otherwise and sometimes very long-ago been linked variously across cultures and epochs, went underappreciated and unrealized where modeling and invented heuristics that fell short of this recognition organized the traditions, questions, aims and outcomes of research and discovery, while the results of ore-provenance studies of metallic artifacts conducted by specialists on behalf of the research community continued to assume, report or pronounce the irrelevance of the complex sourcing and distant movements of (especially European) metals before c. 800 B.C. We have had reason to discuss why it would be important to observe without blinkers and incorporate with the disclosed data from our Hacksilber sample-set and the research questions that emerged from our findings the full ranges of stored data that have and have not informed such understandings, with documentation that permits the independent evaluation of their qualities, diagnostic capacities and limitations.

It remains clear enough that the refusal or inability of one or dozens of scholars to acknowledge and appreciate accurately perspectives that differ from their own does not render the latter inaccurate or irrelevant, however persistent or vitriolic the opposition may be. Nor can the understandings of any one scholar sufficiently accommodate or stand for those of entire research communities. The fact remains that there is no demonstrated evidence that the science for linking silver artifacts to silver in ores has been developed adequately to isolate singular ore-sources for Hacksilber artifacts, and we have discussed some of the limitations of using lead isotopes to investigate the ore-provenance of silver artifacts. So far as I have been able to determine and demonstrate independently, it is necessary to build cases for ore-provenance, using available evidence. The quest for 'proof' belongs to mathematics and pure logic, while evidence, and the need to document, evaluate and appreciate it with validity belongs to science.

To these ends, we have also presented the lead isotope data underlying our 2013 study to allow researchers to observe independently where the $^{208}\text{Pb}/^{206}\text{Pb}$, $^{207}\text{Pb}/^{206}\text{Pb}$, and $^{206}\text{Pb}/^{204}\text{Pb}$ ratios of sampled Hacksilber artifacts correlate with the ancient documents that understood the distant west as the locus of transient Phoenician metals-trade in the 'pre-colonial' period (1200-800 B.C.), the island of Tarshish and the sources of Solomon's silver. At the same time, we have identified Tarshish as Sardinia where ancient texts have indicated that it was a large, country-sized island in the west, and where the its existence and this location had remained dubious partly because of the inability to translate the Nora Stone with certainty.

As we await disclosures elsewhere, it has also been possible touch upon some of the ways in which heroic identity was foundational to social differentiation and economic development in ancient Greece, as well as in those regions already connected by heroic texts and material markers, and to highlight evidence indicating that metals (sometimes involving long-distance, complex communications) became integral to the construction of heroic identities, heroic economies and their inflections.

This brief history draws from Project research and publications prepared through 2016, and the citations therein. Consultation of the following sources and their bibliographies is also suggested:

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