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**“YOU HAVE REFINED US LIKE
SILVER IS REFINED” (PS 66:10):
YAHWEH’S METALLURGICAL
POWERS IN ANCIENT JUDAH**

Jeremy D. Smoak

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Abstract

Since the discovery of the Ketef Hinnom amulets most studies have focused upon the semantic content of their inscriptions and their relationship to the biblical texts. As a result, few studies have asked how their manufacture from silver and their design as tiny scrolls communicated meaning. The present study attempts to fill this lacuna by exploring their materiality as purified silver that was rolled into tiny scrolls. While past studies emphasize that silver was a signifier of economic and social status, I argue that the affordances of silver were also central to their *ritual* logic. I show how a material religions approach to the amulets offers new insights into the sensory affordances of silver and how this metal's properties mediated notions of divine presence and ritual purity. Several biblical texts describe Yahweh as a divine metallurgist who attempts to purify Judah through the removal or extraction of base alloys or impurities. Beyond clarifying the affordances of Ketef Hinnom's silver, I argue that the silver materiality of the objects guided or influenced their semantic content. Verbal allusions to covenant loyalty and the shining face of Yahweh complemented silver's chemical purity and shine.



Depuis la découverte des amulettes de Ketef Hinnom, la plupart des études se sont concentrées sur leur contenu sémantique et leur relation aux textes bibliques. En conséquence, rares sont les études qui se sont demandé comment leur fabrication en argent et leur conception comme rouleaux minuscules créaient du sens. Cette étude cherche à combler cette lacune, en explorant la matérialité des amulettes, en argent purifié, enroulés en minuscules rouleaux. Alors que les études précédentes soulignent que l'argent était un indicateur de statut économique et social, je propose de dire que les propriétés de l'argent étaient aussi centrales pour leur logique rituelle. Je montre comment l'étude des amulettes à travers une approche intéressée par la matérialité des religions permet de mieux comprendre les propriétés sensorielles de l'argent et comment les caractéristiques de ce métal transmettaient les notions de présence divine et de pureté rituelle. Plusieurs textes bibliques décrivent Yahvé comme un métallurgiste divin qui cherche à purifier Juda à travers la suppression ou l'extraction d'alliages de mauvaise qualité ou d'impuretés. En clarifiant les propriétés de l'argent de Ketef Hinnom, j'affirme que la matérialité de l'argent des objets guidait ou influençait leur contenu sémantique. Les allusions verbales à la loyauté à l'alliance et le visage resplendissant de Yahvé complètent la pureté et l'éclat chimiques de l'argent.



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Introduction

The Ketef Hinnom amulets are two of the most famous inscriptions from the Iron Age southern Levant. These inscribed objects were discovered in the repository of an elite burial complex at the site of Ketef Hinnom, Jerusalem (Barkay 1992, 148–51). Due to their fragile state, and their incredibly small size, they were only unrolled and translated several years after their discovery.¹ The content of these inscriptions made a deep impact on scholarship due to parallels between their language and the priestly blessing found in Num 6:24–26.² Studies focused

¹ Rasovsky, Bigelajzen, and Shenhav 1992. See also Barkay et al. 2003.

² Barkay 1992, 2009; Haran 1989; Yardeni 1991. A major focus of the early study of the amulets was also the question of the date of the inscriptions. For discussion

upon form critical and comparative questions as scholars aligned the objects with priestly writings and the history of scribalism in ancient Judah.³ The 2004 revised edition of the inscriptions concluded: “The inscriptions found on these plaques preserve the earliest known citations of biblical texts. The new readings outlined in this article show that these plaques not only contain biblical quotations, but they also provide us with the earliest examples of confessional statements concerning Yahweh” (Barkay et al. 2004, 68). This quote captures an important aspect of the early study of these objects, namely, the concern to read their texts and understand them as inscriptional forms of the biblical text.

The “material turn” in the study of religion, however, reminds us that the materiality of such amulets was an equally important part of their message of blessing and protection.⁴ Indeed, we should emphasize the illegibility of these texts—they were inscribed on the interiors of tiny metal scrolls that were rolled up several times and discovered in a family tomb.⁵ The present study, therefore, complements past works on these tiny scrolls by offering an analysis of their ritual function as “hidden” texts that were not made to be seen, but to communicate through their materiality and design. While past studies have explored the ways in which the use of silver signified the economic and social status of the tomb owners at Ketef Hinnom, I argue here that the precious metal was also central to the *ritual* logic of the amulets, both in life and in “death,” that is, once they were absorbed into the tomb repository as a part of the things placed in the tomb to care for the dead. Having been designed from highly refined silver, the materiality of these amulets and

of their paleography, see especially Renz 1995, 447–56; Yardeni 1991; Lemaire 1997; Vanderhooft 1999; Cross 2003, 128; Dobbs-Allsopp et al. 2004; Ahituv 2008, 49–55; 2012. For further discussion of the date of the objects, see Berlejung 2008a, 2008b.

³ Waaler 2002; Schniedewind 2004, 2013; Na’aman 2011; Smoak 2012, 2015. Studies have also focused upon the significance the inscriptions had for our understanding of Israelite religion. See Keel and Uehlinger 1989, 363–64; Lewis 2000, 2011, 2012; Hendel 2004; Schmidt 2013, 2016, 123–41; Smoak 2019.

⁴ Meyer et al. 2010; Hazard 2013; Bräunlein 2016.

⁵ Schmidt 2013, 2016; Suriano 2018; Smoak 2019; Valkama 2021.



their inscribed words worked together as a communicative complex of meaning: one material and one linguistic. In order to demonstrate this, I step back from the study of these amulets as priestly objects and address the broader tradition about the purifying power of silver that underlies their design. To do this, I draw specific attention to the chemical properties of silver and the metal's capacity to be refined to produce a shine that located its ritual meaning within the realm of sensory experience.

As I show below, an important aspect of silver's value in the ancient Near East relates to the technology of cupellation, which was used to remove impurities from the precious metal. Because silver could be refined several times in order to rid unwanted alloys, it came to serve as a metaphor and ritual analogue for human purification. The biblical texts represent a significant part of this tradition by alluding in several places to Yahweh's power to refine and purify human hearts. In what follows, I argue that this meaning may have formed a critical part of the ritual logic of the design of Ketef Hinnom's amulets; indeed, this might be why these amulets were crafted specifically as silver objects. Toward this end, I argue that the silver used to make the amulets not only "presenced" divine blessing, but it also played an active role in guiding the semantic context of the inscriptions. Silver conveyed notions of covenant fidelity and ritual purity, while the metal's shiny qualities gave visual expression to divine favor and protection. The inscriptions complemented this message by invoking covenantal language, statements that Yahweh's blessings are stronger than evil, and requesting that Yahweh make his face shine upon the wearer.



The Materiality of Ritual Objects

My more recent work on these two objects draws from recent scholarship on amulets that considers the ritual power of their material composition and design elements. In the 2011 article, "Text, Image and Medium," Chris Faraone (2011) explored the role that the medium of Greco-Roman gemstones played in their magical function. He stressed that the ancient sources often emphasize the medium or color as much as the inscriptions on such stones. Faraone noted the example of the use



Figure 1. Photo of Ketef Hinnom 1 at 1:1 scale (courtesy of the Israel Antiquities Authority and Bruce and Ken Zuckerman, University of Southern California, West Semitic Research Project)

Translation of the Ketef Hinnom Amulet 1

KHinn 1

[For PN]-iah ... ³⁾ the grea[t ... who keeps] ⁴⁾ the covenant and ⁵⁾ [g]aciousness toward those who love [him] and ⁶⁾ those who keep [his commandments ... ⁷⁾.... ⁸⁾ the eternal [....] ⁹⁾ [the?] blessing more than any ¹⁰⁾ [sna]re and more than evil. ¹¹⁾ For redemption is in him. ¹²⁾ For Yahweh ¹³⁾ is our restorer [and] ¹⁴⁾ rock. May Yahweh bles[s] ¹⁵⁾ you and ¹⁶⁾ [may he] guard you. ¹⁷⁾ [May] Yahweh make ¹⁸⁾ [his face] shine.





Figure 2. Photo of Ketef Hinnom 2 at 1:1 scale (courtesy of the Israel Antiquities Authority and Bruce and Ken Zuckerman, University of Southern California, West Semitic Research Project)

Translation of the Ketef Hinnom Amulet 2

KHinn 2

[For PN, (the son/daughter of) PN-ia]h. May h[e]/²⁾ sh[e] be blessed by Yahweh,³⁾ the warrior and⁴⁾ the one who expels⁵⁾⁻⁶⁾ [e]vil. May Yahweh bless you,⁷⁾ guard you.⁸⁾ May Yahweh make⁹⁾ his face shine¹⁰⁾ upon you and¹¹⁾ give you¹²⁾ p[ea]ce.

of a yellow jasper gemstone inscribed with an image of an eight-legged scorpion (2011, 55). Faraone explored the relationship between the yellow color and the type of stone used to make these amulets and their ritual function; he argued that the use of this specific yellow-colored stone for amulets with the “yellow Palestinian scorpion” is not arbitrary, but evolved through the principle of “like-banning-like” (2011, 55). The yellow Palestinian scorpion was a more lethal type of scorpion in the eastern Mediterranean both because it was more easily camouflaged by the soil and because its venom was especially lethal (2011, 55). Faraone argued that it was the medium of the stone—particularly its yellowish color—was chosen because it shared this visual mode; that is, the stone’s color guided the magician’s decision to use this material to create an amulet that would ward off this yellowish-brown scorpion and protect against its lethal bite (2011, 55).



Faraone’s article has been followed by a number of recent studies that also stress the importance of looking at the medium of amulets and other magical objects as an intrinsic, and not ancillary, facet of their ritual logic.⁶ For instance, a recent study by Celia Sánchez Natalías (2018) examines the role that the properties and color of lead played in the desired function of Latin curse tablets. Natalías shows that “the textual metaphor attested in these curse tablets depends on the physicality of lead and/or a specific ritual deposition to make sense” (2018, 13). These works form helpful reminders that scholars have tended to ignore the role that an object’s physical properties played in guiding its application in ritual. The importance of this line of argument rests not only in the way that it redirects the focus of study toward the materiality of amulets, but—as David Frankfurter recently emphasized—the medium (chemical, color, shape, etc.) may have in many cases influenced or guided decisions about the content that was inscribed on such objects (2019, 662). Any design elements, including iconography and text, were seen to complement the ritual power inherent in a material. Indeed, we might also consider that the color, materiality, and shape of the amulets—which were accessible to both literate and non-literate

⁶ Bremmer 2015; Graf 2015; López-Ruiz 2015; Dieleman 2018; Gordon 2018; Kotansky 2019. See also Tsouparopoulou 2016.

audiences and which were more highly visible—were more expressive to an audience than their words.

The arguments made in these studies suggest that the affordances of the silver used to make the Ketef Hinnom amulets played an important role in their ritual power. Whereas studies have tended to prioritize concerns over understanding the semantic content of the objects, we might ask how their silver materiality functioned as the primary agent in their ritual power. Silver was much more than a signifier of the high social status of the members of this family. The use of the specific metal added a range of metaphoric meaning to these amulets related to the refinement process. Approaching Ketef Hinnom's amulets from this perspective offers a corrective to the tendency to prioritize the inscriptions and to note their medium in passing. Indeed, we might ask, if these amulets were made of a different metal or another material, such as gold or clay, for example, would they have had the same ritual power?



Silver's Economy in the Iron Age Southern Levant

In order to understand how these amulets operated as metal *ritual* things, we might first step back and address the wealth of meaning that was expressed, not by their words, but from their medium: silver. We can start by observing that the ritual value of Ketef Hinnom's silver was most manifest at the intersection of its economic significance and its personal value as adornment for the body. The goal of these objects was to merge the economic value of precious metal with the religious associations that came with their design and display functions as jewelry. We might begin with a broad focus upon silver's regional value in the Neo-Assyrian period. The excavations at Tel Migne-Ekron are especially helpful here in elucidating the picture of silver during this period. Among the many finds from the site were six separate caches of silver, which had been purposefully hidden in large buildings in the central zone of the city (Golani and Sass 1998).⁷ This zone of the city was also

⁷ One of the hoards from Ekron contains an impressive collection of silver jewelry, which was buried beneath a wall in Stratum 1C-B, and which dated to

the location of the massive temple complex and city palace. Three of the hoards were discovered in a building that formed part of the temple.

The impressive hoard of silver from Tel Migne–Ekron and other sites in the southern Levant reflect the increasing importance of silver, not merely as the medium for craft or jewelry production, but also as the international currency of the Neo-Assyrian Empire. The fact that several of such hoards have been discovered in the southern Levant points to the region’s significance as part of the east–west trade network between the Mediterranean and the Neo-Assyrian Empire.⁸ Seymour Gitin and Amir Golani also emphasize the importance of the silver at Ekron in relation to tribute payments to the Neo-Assyrian Empire.⁹ Evidence from the Assyrian heartland as well as inscriptions from the southern Levant point to the use of silver as “tribute” (*maddattu*) to Assyria as well as a currency for the purchase of raw resources (i.e., grain) (Stager 1996, 66).



Silver and gold jewelry in particular was prized as personal adornment used to decorate the dead in the tomb (Golani 2013, 11). Silver jewelry, like the Ketef Hinnom amulets, is most commonly found in burial contexts in the Iron Age southern Levant.¹⁰ This is not surprising given the wide use of silver and gold jewelry in burial contexts in adjacent regions. Beyond the impressive collection of silver from Ketef Hinnom, silver jewelry pieces have been discovered at a number of burial contexts dating to the Iron Age. Silver pendants exhibiting

the Iron II (Golani 2013, 12). Other hoards of silver come from an early Iron Age context at Beth-Shean and an unstratified context at Eshtemo’a. The hoard discovered at Eshtemo’a dates somewhere between the tenth and eighth centuries BCE, while the hoard from Beth-Shean dates to the Iron I. A hoard of silver was also uncovered below a floor level at En-Gedi, dating to the late Iron Age, likely between 630 and 582 BCE. The hoard had been placed in a cooking pot and buried beneath of the floor of a building. Other hoards of silver dating to the Iron Age are those discovered at Shechem and Gezer, although a more precise date for both is not possible (for discussion, see Golani 2013).

⁸ Gitin 1995; Gitin and Golani 2001.

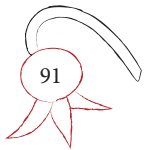
⁹ Gitin and Golani 2001, 36–37; Gitin and Golani 2004, 204. See also Postgate 1979, 21–22; Fales and Postgate 1995, 218; Golani 2013, 79.

¹⁰ Bloch-Smith 1992, 81; Golani 2013, 11.

Phoenician influence have been discovered in Iron Age funerary contexts at Akhziv (Tomb 1), Tel Michal (Tomb 2001), 'Atlit (Tomb 24), and Tel Shor (sixth–fourth centuries) (Golani 2013, 11). The discovery of silver in funerary contexts reflects the role that it played as a valuable personal possession, one that conferred prestige and honor to the dead. It is also possible that in certain cases the jewelry found in funerary contexts was not used through the life of an individual but may have been made specifically for burial.

Several of the silver jewelry items discovered in the excavations of Tel Migne-Ekron, unlike those at Ketef Hinnom, feature religious decorative designs and iconography (Golani and Sass 1998, 73–74). Among the pieces of jewelry is a thin silver medallion that features a cultic scene incised on the surface. The scene reflects well-known Assyrian iconography of a worshipper with raised arms standing before a cult stand and an image of Ishtar with a lion (Golani and Sass 1998, 71). Above the images of the worshipper and the goddess are the seven Pleiades, a crescent, and a winged sun. The same hoard in which the medallion appears included two Horus eyes made of very thin sheets of silver. The use of silver for the Horus eyes is somewhat unique in the archeological record of the southern Levant. The majority of examples of Horus eyes were made of faience and not silver. These pieces of jewelry reflect Ekron's position at the crossroads of Assyrian, Phoenician, and Egyptian cultures (Golani and Sass 1998, 74). The religious imagery used in the silver jewelry attests to the production of local religious materials that draw from Assyrian, Phoenician, and Egyptian and traditions.

The caches of silver described here situate Ketef Hinnom's silver within its regional context as precious objects and social signifiers of high status and wealth. The elite nature of this tomb is also demonstrated by the other metal objects that were interred in the burial complex. The repository of chapter 25 in which the two amulets were discovered contained numerous examples of silver, gold, and bronze jewelry and many other objects made of other valuable materials (Limmer 2007, 232). Gabriel Barkay notes that over ninety of the items removed from the repository were made of silver (1992, 145). An Udjat-eye amulet discovered in the same tomb featured the use of silver sheeting for the pupil of the eye (1986, 26). The high volume of silver items together



with the other precious metal objects found in the tomb points to the family's wealth and its access to the wider regional and international market for silver (Limmer 2007, 232). Indeed, we might see the incorporation of the silver amulets into the assemblage of valuable objects in the tomb repository as an effort to create and store a kind of collective memory of the family's status and wealth.

Refining Silver's Ritual Value in the Ancient Near East

Having established the economic and cultural significance of silver in late Iron Age Judah, we can refine our analysis by contextualizing the use of silver for ritual objects within a broader discussion of the chemical properties and the related metaphoric powers ascribed to the metal. Recent studies by Kim Benzel and several others have drawn attention to the variety of ways that Mesopotamian texts convey notions of precious metal's perceived efficacy, divinity, or inherent ritual value.¹¹ One does not have to go far in the textual evidence of Mesopotamia to locate allusions to silver's and to gold's ritual significance. Building on the work of Irene Winter and Beate Pongratz-Leisten, Benzel emphasizes that the word for silver in Sumerian KU₃.BABBAR (*kaspum*) and Akkadian *ellu* also possesses the meaning "(to be) pure, bright, shiny."¹² She details the ways in which Mesopotamian texts held the metal to hold intrinsic or inherent divine properties, sacredness, and radiance (2015, 102). Benzel argues that it is because silver and gold possess an ability to maintain their lustrous appearance that they came to hold a special place in religious discourse about divinity and in the aesthetics of temples in Mesopotamia (2015, 98).

In Mesopotamian texts, silver and gold are often presented as a pair. They are presented as complementary precious metals and signifiers of divine power. This is seen in the metaphorical load ascribed to these

¹¹ Lewis 2005; Pongratz-Leisten 2009; Ornan 2012; Winter 2012; Benzel 2015. See also Oppenheim 1949.

¹² Benzel 2015, 100. On *ellu*, cf. Wilson 1994, 68–82.



metals and their use to describe gods and things relating to divine power. The shining of these metals denoted the availability of the divine presence to manifest in the human realm. Whereas terms that denoted “pure brightness” were associated with divinity, “brightness-dominated”—as Shiyanthi Thavapalan has argued—colors took their names from precious metals and other stones and evoked notions of divine *manifestation* (2018, 13). By divine *manifestation*, I mean the affect that the metal had upon persons in the realm of visual and tactile experience. The distinction here is decidedly material: the “brightness-dominated” properties of silver and gold signaled an inherent divinity and ritual purity that could be employed in the cult.

In this understanding, Winter's definition of the modes of aesthetics in Mesopotamian art is most helpful.¹³ In several articles on the aesthetics of radiance in Mesopotamian traditions, she divides aesthetics into three interrelated modes, which she characterizes as the “visible property by which the quality was manifest, the inherent characteristic, or power, for which the visible was the manifest sign, and the emotional response appropriate to each” (1994, 125). In other words, Winter's exploration of the use of terms for radiance or brilliance in Mesopotamian draws attention to the way that the aesthetics of art in this region emphasize three communicative modes: an inherent power of a material, the physical characteristics of the material that signal inherent power, and the effect that the physical characteristics have upon a person, or, to put it another way, the material's sensory affects (1994, 125).

While those of us who specialize in the ancient Near East are familiar with the pairing of silver and gold that we might be tempted to ascribe them a similar meaning, it is important to keep in mind that the affordances of silver and gold are quite distinct.¹⁴ It is significant that Ketef Hinnom's amulets are made in silver, and not in gold. Recent studies rightly emphasize the distinction between gold and silver in terms of each metal's levels of purity (Benzel 2015, 104). Whereas gold occurs more frequently in a pure state, silver often requires a much more thor-



¹³ Winter 1994, 2002, 2007, 2012.

¹⁴ See Clark 1986, 59–60; van der Spek et al. 2018.

ough refining process to remove unwanted impurities.¹⁵ Silver, compared to gold, is relatively more malleable to work, and this quality of the metal may have contributed further to its significance as a metaphor for human behavior. Its malleability meant that it would be tested and refined several times in order as part of the metallurgical process of separating the precious metal from base alloys. The use of silver seems to be significant, especially given the amount of data—both archeological and textual—that we possess from the ancient Near East concerning silver’s economic *and* ritual value: silver was prized for its scarcity but also for its chemical properties.

Mesopotamian texts record a number of glimpses into the role that the refining process played in evaluating the true economic value of the metal. This meant that a much more extensive technical vocabulary developed around the manufacturing capacities of silver. An especially important corpus for understanding the technical vocabulary associated with silver’s refining capacities comes from the Old Assyrian texts from Assur (Veenhof 1972, 2014). These texts date to the early second millennium and describe the overland trade between Assur and the Taurus region of Anatolia. This region was rich in deposits of galena, an argentiferous lead mineral from which silver could be extracted through cupellation. When it was imported into Assur, it was used as the primary means by which traders purchased raw materials for their livelihood.

The fact that silver formed the primary means of exchange in the network also meant that methods for assessing its value received considerable attention. Much of our understanding of the technical terminology for cupellation, for example, derives from this literary corpus. This is because the actual value of the silver was determined by a process that involved “firing” (*ṣarāpum*), “melting” (*ṣuādum*; *sādu*), and “washing” (*masā’um*) the metal in order to rid it of impurities (Veenhof 2014). These terms refer to the process of heating the metal in the cupel to a certain temperature so that the unwanted alloys would rise to the surface. The impurities could then be oxidized by using bellows to blow air across the molten metal. Since the silver would remain unoxidized, this



¹⁵ Dercksen 2005, 21–24; Golani 2013, 18–19.

process resulted in the separation of the metal impurities (or slag) from the precious metal. The refiner knows when all of the impurities have been removed when he examines the molten ore and sees it become a shining liquid mirror. Hans E. Wulff's description of the process is especially helpful here:

Crucibles are used that are lined with a mixture of wood ash, sand and ground potsherds. Lead is melted into the precious metal, and the dross that forms on the surface and contains all the base metal impurities is continually removed by scraping it over the edge of the crucible until the molten precious metal shows a *brightly shining surface*. (qtd. in Levene and Rothenberg 2004, 197; my italics)

As a result, the most valuable form of silver was known as *kaspum šar-rupum* or “refined (or fired) silver” (Veenhof 2014). The role that silver and other precious metals played in exchange between temples and merchants meant that the textual sources often associate it with notions of blessing or benediction of the gods (Veenhof 1972, 75).

This also meant that the economic texts from this corpus preserved a variety of glimpses into the technical terminology associated with the process of removing impurities from silver (Veenhof 1972, 46–47). Silver that was regarded as dirty or impure was referred to as *massuhum*, and was considered less valuable (Veenhof 2014, 404). Several texts mention that the silver-slag removed in the process would be retained and used for some other purposes. Several of the texts emphasize the loss of weight—hence, value—that was determined through the process of separating the silver from other metal impurities in the refining process (Veenhof 2014, 405).

The Old Assyrian texts described here provide insight into the import of silver as a metaphor in ancient Near Eastern texts. Silver's ability to be cupellated in order to remove base alloys meant that the metal could serve as an analogue for human purity.¹⁶ Several Mesopotamian texts use silver's purity as a metaphor for human purity and the refining of the metal as a parallel for the removal of evil, wickedness, or immoral

¹⁶ For further discussion of the purifying powers of gold and silver, see Maul 1994, 95.



behavior from humans. The Old Babylonian composition “Hymn to Nungal” employs the analogy to describe Nungal’s cleansing of an evil man to a state of cultic purity.¹⁷ The relevant part of the text reads: “When it pacifies the heart of his god, when it is has polished him like silver of good quality, when it has made him shine forth through the dust; when it has cleansed him of dirt, like silver of best quality; he will be returned to the good hands of his god” (Reid 2016, 99). While this text refers more to the act of polishing and cleaning silver than to cupellation, it connects the quality of silver and its aesthetics to ideas about human behavior and the ability of prison to refine human character (Reid 2015, 596).

It is not difficult to see how this process came to serve as a metaphor for human behavior, or, perhaps better, the power of a god to examine human moral and ritual purity. The metallurgical craft was abstracted into the realm of divine inspection and testing of humans. Refining silver to determine whether it had any undetected impurities became an analogue for extracting wickedness from human character, purity, etc. One facet of this tradition—as Yitzhaq Feder has shown—was the association of the metal impurities removed in the process of refining precious metals with human immorality, criminality, and “unclean persons banished from the community (*musukku*)” (2016, 115).¹⁸ He identified a terminological overlap in the root *msk/h* that could pertain to both metallic impurities and contemptible people. Especially relevant here is the observation that this later term *musukku* also has the meanings “to be ugly,” “to spoil, make disgusting,” and “to become bad, wicked” (2016, 115). The use of these two terms in Akkadian texts shows not only that Mesopotamian cultures connected the purity that silver achieved through the refining process to ideas about human purity and



¹⁷ Frymer 1977; Civil 1993; Kleber and Frahm 2006.

¹⁸ Feder 2016, 115. See also De Zorzi 2019, 227–52. Feder shows that whereas the lexica tend to treat the terms (*m*)*usukku* and *mussuhu* as two separate semantic categories, both terms appear in contexts where they convey notions of “inferior quality of silver” (2016, 115). He cites the use of the term *massuhu/maššu* to refer to “poor-quality silver and copper,” whereas *musukku* “refers to the impurities resulting from the silver’s refinement” (2016, 115).

cleanness but also that such texts associated the dross removed from precious metals to human wickedness and criminality.

Silver's Ritual Power in Ancient Judah

With this backdrop in mind, we can refine our understanding of how Ketef Hinnom's silver communicated ritual meaning. When we return to the question raised at the beginning of this article, we might ask: would the amulets have had the same power had they been made out of another material, such as gold or bronze? While several recent studies have fleshed out silver's economic value in Iron Age Judah, far less attention has been devoted to its significance in ritual.¹⁹ This is an important point to stress because studies tend to emphasize the ways in which the biblical texts allude to silver's economic value while neglecting to mention the many references to its manufacture.²⁰ When we move from Mesopotamia to Judah, however, we can see that the literary discourse over silver's refining capacities also left a noticeable legacy in the biblical texts.²¹ Collectively, as I describe below, these texts attest to a robust mythology concerning silver's applications in religious discourse in ancient Judah (Amzallag 2013, 2015). This mythology points to the strong likelihood that the use of highly refined silver imparted a meaning to the Ketef Hinnom amulets that was specific to the material, chemical, and metaphorical nature of this metal. That is, these amulets would not have the same power or meaning had they been inscribed in another substance.

To offer a corrective and better contextualize the ritual logic of these amulets, we might start by examining the small handful of texts that



¹⁹ Golani and Sass 1998; Gitin and Golani 2001; Limmer 2007; Golani 2013; Ilan 2014.

²⁰ For previous discussion of the metal form of the amulets and comparison with other silver objects in the southern Levant, see Berlejung 2008a, 2008b; Ahituv 2012.

²¹ See Jer 6:27–30; Ezek 22:17–22; Ps 12:7; 24:4; 26:2; 66:10; Prov 10:20; 25:4; 30:5; Mal 3:3.

employ metaphorical language about silver's refining capacities. Silver is especially central in metaphors for Yahweh's testing of Israel. One of the most detailed descriptions of this appears in Jer 6:27–30.²² The passage stands at the very end of several oracles of judgment regarding the Babylonian destruction of Judah. It is relevant here because it contains a brief yet detailed description of a failed attempt to refine silver. I therefore cite the passage in full:²³

An assayer I have made you among my people,
 so that you may know and assay their ways.
 They are all princely rebels,
 bearers of slander,
 bronze and iron, all of them,
 destroyers they are;
 the bellows are scorched by the fire,
 the lead is consumed
 in vain the refiner has refined,
 but the evil are not separated out
 “rejected silver” they are called,
 for Yahweh has rejected them.



In this passage, Yahweh uses the language of cupellation to tell Jeremiah to test and purify the people of Judah. The passage opens with a declaration by Yahweh to Jeremiah that he has made the prophet an assayer of his people, “so that [the prophet] may know and test their way.”²⁴ Verse 28 identifies the people as stubbornly rebellious, acting corruptly and sets the stage for the imagery in the following two verses. The following verse alludes to the use of lead mixture and a heating mechanism to remove unwanted alloys from the silver: “bronze and iron, all of them” (Holladay 1986, 230). After this declaration by Yahweh, verse 29 alludes

²² Percy 1870, 177; Driver 1955; Gettens and Waring 1957; Soggin 1959; Guillaume 1962; Loretz 1972; Holladay 1986; Amzallag 2013, 2015.

²³ It is beyond the scope of the present study to review all of the text-critical difficulties that this passage poses. For discussion, see Robinson 1914–1915; Driver 1955; Soggin 1959; Holladay 1986, 228–29.

²⁴ For discussion, see Holladay 1986, 229.

to the use of bellows to blow air into the fire. William Holladay translated the first line of the verse as “the bellows are scorched by the fire” (1986, 228). The advantage of this translation lies in the way that it initiates the description of cupellation (Levene and Rothenberg 2004).

The final clause of verse 29 requires further comment in the light of the Mesopotamian texts described in this study. The clause reads: ורעים לא נתקו, which Holladay renders as “but the evil are not separated out” (1986, 228). The use of the term רעים is striking in a metallurgical context, however. Based upon allusions to cupellation in other biblical texts, one might have expected the term “dross” (סיגים). Proverbs 25:4 provides a good example of this: “The dross (סיגים) having been separated from the silver, a vessel (כלי) emerged for the refiner (צרף).”²⁵ Viewed against the background of the metaphorical uses of cupellation outlined in the present study, however, we might suggest that רעים has a polysemous function in this oracle: it refers to both the unwanted metal impurities removed during cupellation as well as the wickedness or evil that Yahweh has attempted to remove from Judah. As Holladay summarizes: “Just as in the metaphor the impure metals have not been extracted, so in the analysis of the people of Israel those who rebel against Yahweh are not extracted from the mass” (1986, 233). The comparison here is with the term *musukku* in Old Assyrian, which refers to the dirty or impure alloys extracted during refining. As noted above, several Mesopotamian texts connect the base alloys that are separated from precious metals to notions of human wickedness and impurity (Feder 2014, 115).

The imagery of cupellation in Jeremiah's oracle clarifies the metaphorical value of refined silver in several biblical texts. A number of such texts employ verbs that reflect the different stages of refining silver to describe Yahweh's testing of his people (i.e., זקק, בהן, צרף). Especially noteworthy are several texts that connect ritual purity to the chemical purity that the process of refining produces. So, the psalmist in Ps 66 may enter the Temple and offer sacrifices because they have been tested and refined like silver: “For you, O God, have tested us; you have refined us like refined silver” (Hossfeld et al. 2005, 146). Malachi 3:3

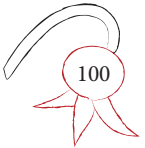
²⁵ Robinson 1949, 188–90; Fox 2009, 779. See also Ezek 22:17–22.



describes Yahweh as refining fire who will sit and refine the sons of Levi like one who purifies silver: “He will sit as a refiner and purifier of silver, and he will purify the sons of Levi and refine them like gold and silver” (Petersen 1995, 211). According to Zechariah 13:9, those who have been tested and refined like silver and gold are those who will be left alive and who will say: “Yahweh is my God” (see discussion in Petersen 1995, 131–32).

Proverbs locates the metallurgical metaphor of cupellation at the anatomical level. Yahweh “refines” (צַרַּף) the heart of his people and then “assays” or “tests” (בַּחַן) the organ for purity. According to Proverbs 17:3, “a crucible is for silver, and a furnace is for gold, and Yahweh tests hearts.”²⁶ Commenting on the use of the metaphor in this passage, Michael Fox summarizes: “God ‘tests’ the heart as a furnace assays and purifies metallic ore by heating it until the pure silver or gold melts ... and can be collected. Since God is the tester, the analogy connotes more than examination of thoughts ... [it] implies a hard trial, which will prove the sufferer’s loyalty and purify him in the process” (2009, 625). According to Psalm 24, only those who have a “pure heart” (לֵב בָּרָה)—that is, a heart that has been refined and as a result shines—may enter the sanctuary of Yahweh (see Feder 2014, 108). This is because—as Thomas Staubli and Silvia Schroer emphasize—“a human being conducts his or her most secret reflections and plans in the heart” (2017, 45–46). The power of this metaphor is that “while people are deceived ... God sees behind the facades and knows what is happening inside them” (2017, 46).

We might see the allusions to silver in these texts as reflections of the role that refined silver played in cultic settings in ancient Israel and the Near East. In other words, the metaphor’s value rests not only in silver’s manufacturing capacities but also in its ritual or cultic associations: silver and gold decorated cult statues and were found in temple contexts.²⁷ In ancient Egypt, silver was associated with the bones of the gods and with notions of cultic purity.²⁸ The purity of the metal was



²⁶ Morrison 2017, 156. See also Fox 2009, 625.

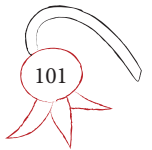
²⁷ Oppenheim 1949; Lewis 2005; Ornan 2012; Winter 2012; Smoak 2019.

²⁸ Aufrère 1991, 409–23; Schorsch 2001.

signaled to the viewer by its luminous appearance, its brightness, and its radiance. As Winter observed concerning the aesthetics of precious metals in Mesopotamia: “To the extent that shine is a signal of purity and sacredness, the shining vessel is declared manifestly appropriate for use in the cult; and to the extent that shine is both physically manifest and positively charged, it is a property that engages a positive visual response in the viewer” (1994, 125).

Sensing Silver's Ritual Power

When we return to the question raised at the beginning of this article, we might ask: would the amulets have had the same power had they been made out of another material, such as gold or bronze? The biblical texts presented here suggest that ancient Judah had a rather robust mythology surrounding the ritual power of silver. While the biblical texts often pair silver and gold, the passages examined above demonstrate that silver held an especially significant place because of its refining capacities. When we move from the metaphorical usages of silver in the biblical literature back to Ketef Hinnom, however, we might draw more specific attention to silver's role in personal religion. By this, I mean to emphasize the precious metal's sensory affects or the ways in which its materiality engaged the senses. This means to ask not only about its visual qualities but also the affect that the metal had upon the skin of the body. In this way, we might use the terminology of “sensory artefact”—to borrow Kiersten Neumann's expression—to explore further the agency and capacity that the amulets had to engage the human senses (2018, 182).²⁹ Silver's ritual power was generated by the coordination of sight and touch and the precious metal's cultural associations. Whatever we might say about silver's cultic associations, Ketef Hinnom's amulets placed those associations at the heart and fingertips of their owners.



²⁹ For further discussion of the notion of “sensory artifact” or “sense-scape,” see Thomason 2016.

Although amulets were used in a variety of ways, they were often placed upon the chest in order to locate their significance in relation to the heart. As Donald Skemer observes: “People generally positioned protective objects over the heart because it was considered the gateway to the soul and the seat of the memory. Shielding the heart with powerful words and images was believed to offer the bearer comprehensive protection against demonic invasion and evil spirits” (2006, 128). In this way, the act of placing silver upon the body and in close proximity to the heart not only functioned to protect the wearers but it also gave expression to their religious devotion. One is reminded of the instructions in Proverbs to write commandments and teaching upon the tablet of one’s heart (Prov 3:1–3; 7:1–2). Similarly, Deuteronomy instructs the placing of Yahweh’s commands upon the heart.³⁰ In this way, the meaning of Ketef Hinnom’s silver was not located only in its chemical properties but also in its design as jewelry that may have been placed at the heart of their owners. This ritual act might be viewed to convey the idea that purity of this silver gave outward expression to the purity of the heart of their owners.



At Ketef Hinnom, however, we do not have a metaphorical application of these ideas, but rather a decidedly material one: Yahweh’s words are not *like* silver; they *are* silver. Highly purified silver “manifested” or “presenced” the blessings and protection of Yahweh for those who wore them upon their bodies. The feel of the silver’s purity produced a sensation. It is noteworthy in this regard that a handful of biblical texts describe the words of Yahweh as “refined”—that is, tested, and hence, determined to be free from impurities (Ps 12:7; 28:30; Prov 30:5). The words of Ps 12:7 are especially relevant here: “The utterances of Yahweh are pure words; silver refined in a furnace in the ground; purified seven times” (Smoak 2010). So also, Ps 18:30 states: “The word of Yahweh is refined (צִרּוּפָה); he is a shield to all who take refuge in him” (Kraus 1993, 263). Here in these psalms, we have a linguistic expression of what the materiality of Ketef Hinnom’s silver conveyed chemically. The silver sheets onto which the words were scratched are not to be seen as a backdrop for divine words, but instead as a crucial ingredient of

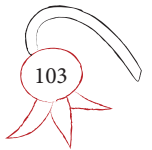
³⁰ Deut 6:6; 11:18. See Stavrakopoulou 2013, 548.

the ritual power of the words. These were not words to be read, but rather words to be *felt*. The sensation that was produced by the feel of silver's chemical purity put Yahweh's words within their owners' bodies. Precious metal, according to Ps 19:7–9, “rejoices the heart” and “makes the eyes light up”.

The ritual power of Ketef Hinnom's silver scripts, however, would not have been confined to the materiality of their sheets of silver foil. The ritual power of these objects would have also been connected to the writing implement that produced the inscriptions. We cannot be certain of the type of implement that was used, but such inscriptions would have required a hard implement, most likely made out of some type of metal. In her article “Materials of Writing and Materiality of Knowledge,” Laurie Pearce (2010) draws attention to the role that special implements must have contributed to the value and power of inscriptions made in metal or other precious materials. She notes that Mesopotamian texts refer to styli made of refined silver, gold, carnelian, and lapis lazuli, arguing that, “as no stylus can impress cuneiform signs into stone or metal tablets, the mention of silver, gold, lapis lazuli, and carnelian styli must signify the inherent value of writing implements and thereby affirm the materiality and prestige of writing” (2010, 176). She emphasizes the association that Mesopotamian texts draw between such writing implements made of precious stones and metals and what such texts call *šītir šamê*, or “celestial writing.” As Pearce explains, “*šītir šamê* was a lucid, highly ordered, patterned means of communication and mediation between the divine and human realms” (2010, 177). In other words, writing with such rare implements of precious metal signified a type of divine writing.

These observations only heighten the points already made here about the ritual application of silver upon the body. Writing with such implements implies a certain permanence, internalization, and durability of words. Inscribing materials with hard writing implements signifies the ability of words to penetrate and become lodged in the human heart.³¹ The biblical texts characterize divine writing, or perhaps “supremely skillful writing,” as a type of writing that leaves a durable imprint upon

³¹ Jer 17:1. See Holladay 1986, 486.



hard materials such as stone and metal.³² Perhaps more relevant here is the fact that we find the majority of references to special writing such as a pen of iron or a point of a diamond or another implement in contexts of prophetic oracles (Jer 17) or divine commands for a prophet to engrave a prophetic vision (Isa 8:1). Such references to rare writing implements also imply a concern over their divine origins as well as their capacity to produce an effect and endure.

Silver has long been recognized as a metal that not only shines but also tarnishes and darkens by contact with the air and the surface of the skin (Vassilious and Gouda 2013). For this reason, many later traditions associate the practice of polishing or restoring the shine of silver as an act that signified repetitive religious devotion (Kessler 2010, 56). Gregory the Great argued in his commentary on the desert Tabernacle that the brightness of silver was preserved by being used (Kessler 2010, 55). This comment taps into traditions that connect the act of touching and polishing silver with votive rituals involving the acts of touching, cleaning, and polishing (Kessler 2010, 60).

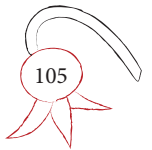
When we turn to the subject of silver jewelry or amulets, the importance of this observation becomes readily apparent. The propensity of silver to lose its shine and tarnish apart from the attention of its owner made it a particularly effective devotional item. By rubbing the silver, the wearers of the amulets made their surfaces shine (again). This sensory act brought together touch and sight as it produced a shine that manifested the divine presence for the wearer. As Raquel Romberg and Claire Fanger suggest, “shine ... becomes embedded with ethical-aesthetic-mystic significance and, in some situations, undergoes an ontological shift that transforms its sensorial materiality (representation) into divine aura (presentation), and directs the power or attention of an actual spiritual presence” (2017, 157). In this way, we might see the act of rubbing the objects and returning their shine to communicate not only notions of continued religious devotion to Yahweh but also an act that directed the god’s presence to the wearer. Feeling the smoothness of the metal may have also conjured notions of the purity of the metal and associations between such purity and Yahweh’s promises to



³² Exod 31:18; 32:16. See Thomas 1968, 120–21; Propp 2006, 495.

the wearer. The feel of the metal's smoothness activated the affect that the metal's purity had upon the body of the wearer.

Silver's ability to be polished and receive a new shine might also explain its wide significance in the tomb and in contexts marked by darkness. Indeed, studies have pointed to the important role that the luminosity of shiny metals may have played in relation to the night and darkness, and in relation to the ideas about the moon's protection.³³ Carol Meyers has noted the use of shiny metal objects as devices to reflect light at night by mothers to ward off malevolent forces from their newborn children (2013, 154). In the context of the house, then, silver's shine might have been associated with concerns over protection in the darkness at night. In their secondary context in the tomb, however, the amulets would have lost their shine. Left alone without human polishing or cleaning, silver tarnishes into a dull gray. This transformation of the metal apart from human contact mimicked the darkness of the tomb and the absence of human contact in the space of the repository.



Conclusion

Establishing the ritual power of silver's materiality also refines our understanding of its semantic content. Returning to the point made at the beginning of this study, we might ask here how the silver materiality of the objects guided or influenced the specific content of the inscriptions. I conclude here by suggesting that silver's ritual power might be seen to be reflected in three aspects of the language of the inscriptions. First, the inscriptions on Amulet 1 invoke covenant language to express the idea that Yahweh will protect the one who has exhibited covenant loyalty or devotion. The language in lines 4–7 on Amulet 1 invoke Yahweh's blessing and protection for "those who love him and those who keep his commandments" (Barkay et al. 2004, 61–62). Given the prominence that silver plays as a metaphor for the covenant and covenant loyalty in the biblical texts, it becomes difficult not to see this aspect of the inscriptions as purposefully playing upon their silver materiality. In other

³³ Ilan 2014, 146; Keel and Uehlinger 1989.

words, the references to those who love and keep his commandments formed the verbal complements to the chemical purity of the amulets and the act of placing them upon the owners' hearts.

Beyond allusions to covenant loyalty, the inscriptions on both amulets also include blessings that invoke the shining face of Yahweh. Most past studies have focused upon the blessing's relationship to the biblical text of Num 6:22–27 and the way that other biblical texts connect the shining face of Yahweh to the Temple. Given the variety of ways in which ancient Near Eastern texts connect silver to the aesthetics of radiance, luminosity, and brightness, we might think first in the context of the amulets that the language of the shining face played upon the metallic purity and visual qualities of silver. That is, the act of inscribing the blessing into the silver gave verbal expression to what the materiality of the precious metal manifested, namely, divine favor and blessing. The chemical purity of the metal produced and made available the shine of Yahweh's face on the body of the amulets' wearers.



Finally, the fact that both amulets contain references to Yahweh's power over $\text{ע}^{\text{ר}}$ is significant in the light of the arguments made here about the correlation between evil, wickedness, impurity, and the base alloys that are removed during the process of cupellation. Jeremiah 6:27–30 demonstrates that ancient Judah had its own mythology about silver's refining capacities and that a part of that mythology connected the removal of metal impurities to notions of extracting evil from human behavior. The way that this text connects $\text{ע}^{\text{ר}}$ to metal impurities that are separated from silver during the refining process offers an intriguing possibility for how to rethink the meaning of this term on both amulets. Amulet 1 states that Yahweh's blessing is more powerful than *Evil*, and Amulet 2 refers to Yahweh as the one who expels *Evil*.³⁴ Within the context of highly purified silver, such statements perhaps played upon the process through which the metal was produced. The purity of these silver objects had been achieved by expelling or extracting metal impurities from the precious metal. When we return to the images of Yahweh as a metalworker described above, we might see such statement

³⁴ For discussion, see Barkay et al. 2004, 65; Lewis 2012.

on the amulets as playing upon and directing Yahweh's metallurgical powers to those who wore silver upon their bodies.

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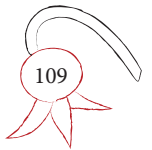
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