



WANDERING ROSETTES: QATNA'S KEY TO A MISUNDERSTOOD MOTIF

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ABSTRACT

A golden inlaid rosette found in the royal tomb of Qatna and dated to the fifteenth to fourteenth century BCE sheds light on the evolution of the Egyptian rosette during the 18th Dynasty and on patterns of artistic exchanges between Near Eastern and Egyptian artists. Since cloisonné technique is uncommon in second millennium BCE pieces of jewelry from Western Asia, the question of the manufacture of the Qatna rosette is reevaluated and a more distant origin proposed on the basis of written documents found in Qatna.

The golden floral jewel found in 2002 in Qatna's (Tell Mišrife) royal tomb central chamber (Damascus National Museum MSHO2G-i1150),¹ inlaid with carnelian and lapis lazuli,² and dated to the fifteenth to fourteenth century BCE, has a stunningly three-dimensional quality for an almost flat piece of jewelry (the underside is slightly convex).³ The 6.9 cm diameter rosette has a dotted and ringed center, and all its 26 so-called petals are divided into eight crescentiform cells fitted with alternating red and blue stones, ending on the outer edge with an elliptic cell filled with carnelian, making an original total of 234 inlaid pieces of stone (Figure 1). The unusual and striking effect of the composition is of tubular convex "petals" emerging from the inner circle of the receptacle, the round heart of the rosette seemingly set in the depth of the raised corolla. Except for the technique of inlays, the piece has apparently no formal connection with Egyptian rosettes⁴ and is "a product of Syrian craftsmanship," as Pfälzner noted in his presentation of the jewel.⁵

I believe the Qatna piece may shed light on a misunderstood stage in the evolution of the generic rosette in Egyptian iconography and on the reciprocal influence of Near Eastern and Egyptian artists.

Classical Egyptian rosettes are of two main patterns: the geometric, wheel-structured or abstract rosettes,⁶ and the floral types,⁷ the latter further subdivided into a nymphaea-type with pointed tips⁸ and a daisy-type with rounded tips (Figure 2).⁹ The daisy motif might have been based on an actual specimen of the Compositae (Asteraceae) family, either the common chamomile (*Anthemis pseudocotula* Boiss.) attested in Egyptian archaeological context since the 3rd Dynasty¹⁰ or the later attested crown daisy (*Chrysanthemum coronarium* L.), from the 18th Dynasty on, in the Theban area.¹¹



Figure 1: Damascus National Museum MSHO2G-i1150, courtesy of Peter Pfälzner and Qatna Project, University of Tübingen

The corolla of both species is actually made of small ray florets possessing flat rays in lengthwise relief, sometimes slightly curved. This sharply contrasts with our Qatna design and its tubular rays (Figure 3), a peculiarity attested in several species in nature, e.g. dahlias (a native to the American continent), but also osteospermums (the "African daisy," also known in the southwestern Arabian Peninsula), spoon mums (*Chrysanthemum morifolium*), and even ox-eye daisies (*Leucanthemum* Miller),¹² all of them belonging to the Asteraceae family. Many species with tubular ray florets are known in the Levant.¹³

Looking more closely at the Egyptian rosettes, we see an interesting evolution that takes place during the 18th Dynasty, with the appearance of daisy-types with florets possessing more

than eight rays variously colored in concentric patterns and tipped with a rounded, sometimes dotted, end.¹⁴ Kantor notes the occurrence of this specific pattern, but she does not reach any significant conclusion.¹⁵ When applied on a flat or slightly curved surface by the Egyptian artists, the motif does not have the tridimensional quality of the Qatna item, but all its elements faithfully appear: see, e.g., from Thutmose III’s reign, an inlaid medallion from the tomb of Merytra Hatshepsut (KV 42);¹⁶ from Amenhotep III’s reign, part of the floral motif of the king’s throne in a mural of Anen’s tomb (TT 120)¹⁷ and on several lids of the wooden model vases from the tomb of Yuya and Tuya (Figure 5c).¹⁸ A very similar dotted-tipped floral design appears on the lid of a faience beaker from Lachish (Tell Duweir),¹⁹ probably to be dated of the same period (Figures 4 and 5b).



Figure 4: IAA 1934-7696, courtesy of Osnat Misch Brandel and Israel Museum, Jerusalem.

From Tutankhamun’s reign, the gold inlaid medallions on the body of the golden chariot Cairo JE 61989 are described by Carter as composed of a golden center pin surrounded by silver, reddish calcite, blue and green glass inlays in matching circular sets with almost round tips of calcite (Figure 5d).²⁰ In all these pieces, the rays are thus marked by elliptic lines (forming the borders of the cells in the case of inlaid pieces) emphasizing their tubular form; still, the effect is much “flatter” than in the case of our Qatna jewel.

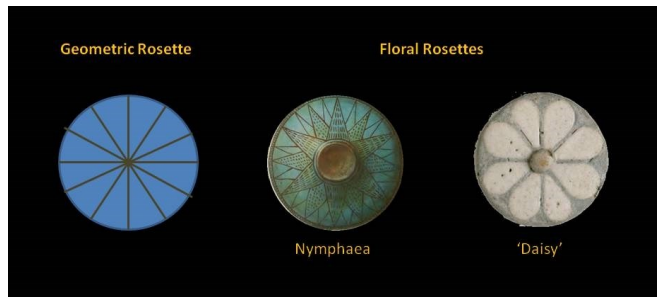


Figure 2: (b) MMA 22.3.73 (after Henry Wallis, *Egyptian Ceramic Art: The Macgregor Collection. A Contribution Towards the History of Egyptian Pottery* (London: Taylor & Francis, 1898), pl. 6); (c) MFA 12.692 (photograph © 2014 Museum of Fine Arts, Boston)



Figure 5: (a) Qatna and (b) Lachish rosettes; (c) Cairo CG 51082 (after Theodore M. Davis, *The Tomb of Louiyou and Touiyou* [London: Archibald Constable, 1907], pl. 43); (d) Cairo JE 61989 (copyright © Robert Harding).

A much more telling representation of the same motif appears on supposedly metal vessels depicted in various contexts since the reign of Thutmose III. Here the floral motif is frequently appended to the vessel’s belly, in convex gadroons with a dotted polylobed edge. Gadrooned vessels,²¹ often crateriform²² (called in Egyptian *ddt*)²³ may be of Syrian origin. They may have been brought back from the Levant by Thutmose III²⁴ and by Syrian merchants;²⁵ they are also represented as tribute in Asian delegation scenes²⁶ in the tombs of the nobles during the same reign, e.g. in the tombs of Menkheperaseneb (TT 86; even in the hand of the Hittite prince),²⁷ Amenmose (TT 89),²⁸ and

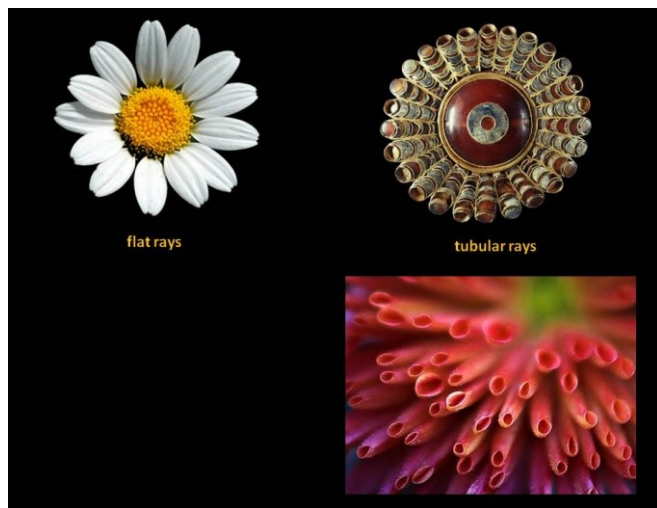


Figure 3: Flat ray florets, copyright © www.flowersinisacl.com; tubular ray florets, copyright © Gordon L Wolford

Rekhmira (TT 100).²⁹ Some of the vessels are depicted with dotted gadroons (Figure 6a).

In some tombs similarly shaped vessels are carried by envoys from the Aegean,³⁰ but the floral gadroons are apparently rare on actual Aegean vessels,³¹ and this may be a case of transfer of Syrian material culture to the Aegean domain by the Egyptian artists.³² At the time of Amenhotep II's reign, the gadroons of a vessel represented in the tomb of Mery (TT 95)³³ are emphasized by curved or V-like striations, a device used in the depiction to accent the impression of a curved shape in relief (Figure 6b). Note that here the dot is located between the tips of the rays, a probable misreading of the motif.

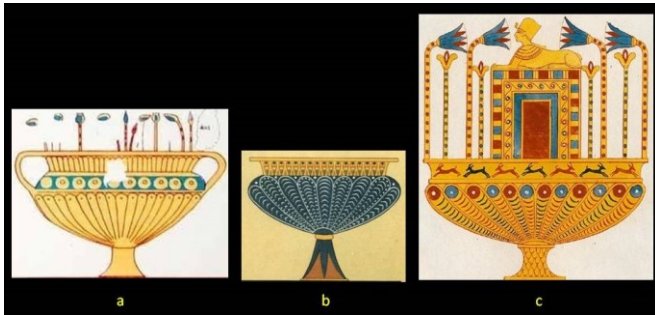


Figure 6: (a) From Menkheperaseneb TT 86 (after Wilhelm Max Müller, *Egyptological Researches: Results of a Journey in 1906* 2, Carnegie Institution of Washington 53/2 [Washington: Henry Frederick Lutz, 1910], pl. 3); (b) from Mery TT 95 (after Emile Prisse d'Avances, *Histoire de l'art égyptien d'après les monuments: Atlas II* [Paris: Arthus Bertrand, 1878], V.7); (c) from Nebamun/Imiseba TT 65 (after Ippolito Rosellini, *I monumenti dell'Egitto e della Nubia: Monumenti civili II* [Pisa: Niccolo Capurro, 1834], pl. 62)

Many more examples of these ribbed or fluted vessels occur in later 18th Dynasty tombs.³⁴ The clearest representation of tubular rays is from the tomb of Nebamun (TT 65), belonging to the reign of Hatshepsut but usurped and redecorated for Imiseba during the 20th Dynasty (reign of Ramesses IX).³⁵ the fluted vessel has crescent-shaped markings on each gadroon tipped by a blue or red roundel with a white center suggesting a tubular opening (Figure 6c). There is no more ambiguity concerning the relation between this design and our Qatna motif.

On a Theban mural of the 19th Dynasty (reign of Ramesses II?),³⁶ an intriguing depiction of flowers called “papyrus” by Wilkinson and Hill³⁷ shows evident tubular ray florets with red dotted tips and blue V-shaped striations, a pattern reminiscent of palmettes from the later (ninth century BCE) northwest palace at Nimrud (see also the rosettes motif in the 'upper chambers' of the central palace), but without dotted tips.³⁸ One may ask if these inflorescences are not a further avatar of our mysterious *Compositae*.

From the reign of Thutmose III, representations of Egyptian goldsmiths at work may show metal crateriform vessels similar to

those brought into Egypt as foreign tribute but here produced by local artisans (see, e.g., in Menkheperaseneb's tomb, TT 86).³⁹ In the tomb of Nebamun and Ipuky (TT 181), from the reign of Amenhotep III, a vessel depicted in the goldsmiths' scene has dotted gadroons:⁴⁰ the Egyptians are copying Syrian prototypes.⁴¹ Unfortunately, no such metal vessel with dotted gadroons has been discovered in Egypt or in the Levant.

But was the motif of certain Syrian origin, and was the Qatna jewel of Syrian manufacture? The Qatna excavations have perhaps revealed a vital piece of information concerning the jewel's source: inventory tablets⁴² of precious artifacts from the palace (fifteenth–fourteenth century BCE)⁴³ list “a necklace including a golden rosette, inlaid with lazuli, rock crystal, (and) carnelian; Tukrish work” (tablet I, line 55).⁴⁴ Bottéro has suggested that the Tukrish mention⁴⁵ may refer to an Iranian Luristan manufacture,⁴⁶ but for Moorey⁴⁷ it refers more probably to Kurdistan or Azerbaijan work; he proposes that what qualifies for “Tukrish style (or technique)” may be “the combination of gold and multi-coloured cloisonné technique” which is uncommon in second millennium BCE pieces of jewelry from Western Asia. Our rosette may be part of such a necklace, since it was found among beads⁴⁸ and its thirteen underside loops could be meant to fasten stringed beads (e.g. six rows and one single bead as pendant),⁴⁹ or it may just be another example of Tukrish rosette. Tukrish was also “known as a source of precious metals and lapis lazuli.”⁵⁰

A jewel similar to Qatna's precious floral ornament has yet to be found in Iran to confirm such origin, though the dotted rosette design is attested later in the region: an engraved, dotted, flat rosette on the underside of a copper vessel said to have been found in the Bakhtaran province, near Kermanshah, has been tentatively dated to 1200–1000 BCE (Figure 7).⁵¹ The Iranian motif may have found its way to Egypt by wandering through the Levant.



Figure 7: BM 123062 (copyright © Trustees of the British Museum).

NOTES

- 1 Michel Al-Maqdissi, Heike Dohmann-Pfälzner, Peter Pfälzner, and Antoine Suleiman, "Das königliche Hypogäum von Qatna. Bericht über die syrisch-deutsche Ausgrabung im November – Dezember 2002," *Mitteilungen der deutschen Orient-Gesellschaft* 135 (2003): 215 fig.15; Peter Pfälzner, "Inlaid Rosette," in Joan Aruz, Kim Benzel and Jean M. Evans (eds.), *Beyond Babylon: Art, Trade, and Diplomacy in the Second Millennium B.C.* (New York/New Haven/London: Metropolitan Museum/Yale University Press, 2008), 223 n. 130; Peter Pfälzner, "Goldplaketten und andere prestigehaltige Einzelobjekte aus Gold, Silber und Bernstein aus der Königsgruft von Qatna im Kontext von Bestattung und Ritual," in Peter Pfälzner (ed.), *Interdisziplinäre Untersuchungen zur Königsgruft in Qatna, Qatna Studien 1* (Wiesbaden: Harrassowitz, 2011), 137–190.
- 2 Judit Zöldföldi, "Gemstones at Qatna Royal Tomb: Preliminary Report," in Peter Pfälzner (ed.), *Interdisziplinäre Untersuchungen zur Königsgruft in Qatna, Qatna Studien 1* (Wiesbaden: Harrassowitz, 2011), 235–248.
- 3 Edilberto Formigli and Marta Abbado, "Die technologische Analyse der Goldobjekte aus der Königsgruft," in Peter Pfälzner (ed.), *Interdisziplinäre Untersuchungen zur Königsgruft in Qatna, Qatna Studien 1* (Wiesbaden: Harrassowitz, 2011), fig. 106.
- 4 Contra Joan Aruz, "Kunst im internationalen Austausch – Evidenz aus Qatna," in Michel Al-Maqdissi, Daniele Morandi Bonacossi and Peter Pfälzner (eds.), *Schätze des Alten Syrien: Die Entdeckung des Königreichs Qatna* (Stuttgart: Landesmuseum Württemberg/Konrad Theiss, 2009), 263: "Importe aus dem Nilal."
- 5 Pfälzner 2008, 223; see also Elisa Roßberger, "Schmuck für Könige und Götter – Funde aus der Königsgruft," in Michel Al-Maqdissi, Daniele Morandi Bonacossi and Peter Pfälzner (eds.), *Schätze des Alten Syrien: Die Entdeckung des Königreichs Qatna* (Stuttgart: Landesmuseum Württemberg/Konrad Theiss, 2009), 229.
- 6 See e.g. faience rosette from Deir el-Bahari, 18th Dynasty, MMA 05.4.43, <http://www.metmuseum.org/Collections/search-the-collections/560663?rpp=20&pg=1&ao=on&ft=05.4.43&pos=1>.
- 7 For references, see Arlette David, "Egyptian 20th Dynasty Wall Paintings," in Nava Panitz-Cohen and Amihai Mazar (eds.), *Excavations at Tel Beth-Shean 1989-1996 III* "The 13th - 11th Century BCE Strata in Areas N and S" (Jerusalem: The Hebrew University and the Israel Exploration Society, 2009), esp. 708–710.
- 8 See e.g. on the outside of a faience bowl from Deir el-Bahari, MMA 22.3.73, <http://www.metmuseum.org/collections/search-the-collections/547570?rpp=20&pg=1&ao=on&ft=22.3.73&img=1>.
- 9 See e.g. a faience inlay, 19th Dynasty, MFA 12.692, <http://www.mfa.org/collections/object/rosette-inlay-30>.
- 10 Renate Germer, *Flora des pharaonischen Ägypten* (Mainz: Philipp von Zabern, 1985), 180.
- 11 Germer, 182; Ludwig Keimer, *Die Gartenpflanzen im alten Ägypten* (Hildesheim: Georg Olms, 1924; reprint, 1967), 10–12; Christian de Vartavan and Victoria Asensi Amorós, *Codex of Ancient Egyptian Plant Remains* (London: Triade Exploration, 1997), 75–76.
- 12 Vernon H. Heywood and Thomas G. Tutin, *Flora Europaea IV* (Cambridge: University Press, 1976), 174.
- 13 I thank Jotham Ziffer Berger (Hebrew University Herbarium) for this precision.
- 14 For examples of dotted ray florets in the Aegean, Greek, and Near Eastern worlds, see Ayako Imai, *Some Aspects of "Phoenician bowls" with Special Reference to the Proto-Cypriote Class and the Cypro-Phoenician Class* (PhD dissertation, Columbia University; Ann Arbor: Xerox University Microfilms, 1977), 123 fig. C and 150–160, although no examples of tubular ray florets are presented.
- 15 Helen J. Kantor, *Plant Ornament: Its Origin and Development in the Ancient Near East* (PhD dissertation, University of Chicago, 1945; revised, 1999, <http://oi.uchicago.edu/research/library/dissertation/kantor.html>), 142–143, 150–158.
- 16 MMA 30.8.252, <http://www.metmuseum.org/Collections/search-the-collections/54892?rpp=20&pg=1&ao=on&ft=30.8.252&pos=1>.
- 17 MMA 33.8.8, <http://www.metmuseum.org/Collections/search-the-collections/548566>.
- 18 Cairo CG 51056, 51059–51061, 51069, 51077, 51082 in James E. Quibell, *Catalogue général des antiquités égyptiennes du Musée du Caire Nos. 51001-51191: Tomb of Yuua and Thuiu* (Cairo: Institut français d'archéologie orientale, 1908), pl. 21; Theodore M. Davis, *The Tomb of Iouiya and Touiyou* (London: Archibald Constable, 1907), pl. 43.
- 19 Israel Museum IAA 1934-7696; see Olga Tufnell, Charles H. Inge and Gerald L. Harding, *Lachish II (Tell ed Duweir): The Fosse Temple* (London/New York/Toronto: Oxford University Press, 1940), 62–63, pl. 22 n.55.
- 20 Howard Carter Archives (Griffith Institute), card n.120-5, <http://www.griffith.ox.ac.uk/gri/carter/120-c120-5.html>.
- 21 Concerning New Kingdom fluted metal vessels in general, see Gretchen L. Spalinger, "Metal Vessels," in Edward Brovarski, S. K. Doll and Rita E. Freed (eds.), *Egypt's Golden Age: The Art of Living in the New Kingdom 1558–1058 B.C.*, (Boston: Museum of Fine Arts, 1982), 116–117, 123–124; Ali Radwan, *Die Kupfer- und Bronzegefäße Ägyptens: Von den Anfängen bis zum Beginn der Spätzeit* (München: C.H. Beck, 1983), pls. F (384), 61 (337), 68 (384–385).
- 22 But there are also rhytons, *nḥnm*-jugs, lotiform chalices, globular footed vessels: Jean Vercoutter, *L'Égypte et le monde égéen préhellénique: Etude critique des sources égyptiennes (du début de la XVIIIe à la fin de la XIXe*

- dynastic), Bibliothèque d'Étude 22 (Cairo: Institut français d'archéologie orientale, 1956), especially for dotted gadroons Docs. 323–324, 350, 384–385, 394, 403, 411, 416, 419, 426–427; Dimitri Laboury, “Réflexions sur les vases métalliques des tributaires Keftiou,” *Aegaeum* 6 (1990): pls. 26–29.
- ²³ Kurt Sethe, *Urkunden der 18. Dynastie. Abteilung IV, Band III, Heft 9–12: Historisch-biographische Urkunden* (Leipzig: J. C. Hinrichs, 1907), 631 n. 17 (golden *ddt*-vase from Thutmose III's list of gifts to Amun in the Annals chamber, Karnak). The lexeme has existed in Egypt since the Old Kingdom (Vercoutter, 346–7), apparently referring to a globular vessel (classified with the *nw*-icon [W24 in Gardiner's sign list; Alan Gardiner, *Egyptian Grammar*, 3rd ed. {Oxford: Griffith Institute, 1957}, 547] in Karl Lepsius, *Denkmäler aus Ägypten und Äthiopien II* [Berlin, 1849–1859], 28) without the floral adornment.
- ²⁴ Actually the treasure shelves represented in Karnak include vessels of the same general shape but not gadrooned, see Walter Wreszinski, *Atlas zur altägyptischen Kulturgeschichte II* (Leipzig: J.C. Hinrichs, 1923), 33b.
- ²⁵ For Syrian merchants bringing this type of vessels for trade in Egypt, see e.g. Kenamun's tomb (TT 162) from Amenhotep III's reign in Norman de G. Davies and Raymond O. Faulkner, “A Syrian Trading Venture to Egypt,” *Journal of Egyptian Archaeology* 33 (1947): pls. 7–8.
- ²⁶ See Diamantis Panagiotopoulos, “Foreigners in Egypt in the Time of Hatshepsut and Thutmose III,” in Eric H. Cline and David O'Connor (eds.), *Thutmose III: A New Biography* (Ann Arbor: University of Michigan Press, 2006), 370–412.
- ²⁷ Nina M. Davies and Norman de G. Davies, *The Tombs of Menkheperasonb, Amenmose, and Another (Nos. 86, 112, 42, 226)*, Theban Tomb Series 5 (London: Egypt Exploration Society, 1933), pl. 4.
- ²⁸ Nina M. Davies and Norman de G. Davies, “The Tomb of Amenmose (No. 89) at Thebes,” *Journal of Egyptian Archaeology* 26 (1941): pl. 23.
- ²⁹ See Nina M. Davies's facsimile, MMA 31.6.9, <http://metmuseum.org/collections/search-the-collections/544619>.
- ³⁰ MMA 30.4.84, <http://www.metmuseum.org/Collections/search-the-collections/544609?rpp=20&pg=1&cao=on&ft=30.4.84&pos=1>; Davies and Davies 1933, pls. 5, 18–20; Vercoutter, 347; Imai, 156–157; Laboury, 105–107.
- ³¹ An Egyptianizing feature for Laboury, 105–106.
- ³² Shelley Wachsmann, *Aegeans in the Theban Tombs*, *Orientalia Lovaniensia Analecta* 20 (Leuven: Peeters, 1987), 65.
- ³³ Emile Prisse d'Avennes, *Histoire de l'art égyptien d'après les monuments: Atlas II* (Paris: Arthus Bertrand, 1878), V.7; Emile Prisse d'Avennes, Maarten J. Raven, Alain Blottière, Olaf E. Kaper, *Atlas of Egyptian Art* (Cairo: American University in Cairo Press/Zeitouna, 2000), 142.
- ³⁴ See, e.g., Sebekhotep (TT 63) for Thutmose IV's reign, in BM EA 37991, http://www.britishmuseum.org/research/collection_online/collection_object_details/collection_image_gallery.aspx?assetId=101662&objectId=119652&partId=1; Nina M. Davies and Alan H. Gardiner, *Ancient Egyptian Paintings I* (Chicago: University of Chicago Press, 1936), pl. 43; for Tutankhamun's reign, see Huy's tomb (TT 40) in Karl Lepsius, *Denkmäler aus Ägypten und Äthiopien III* (Berlin, 1849–1859), 115.
- ³⁵ Ippolito Rosellini, *I monumenti dell'Egitto e della Nubia: Monumenti civili II* (Pisa: Niccolo Capurro, 1834), pl. 62; Prisse d'Avennes, V.24; Prisse d'Avennes et al., 159.
- ³⁶ MMA 48.105.8, <http://www.metmuseum.org/Collections/search-the-collections/557837?rpp=20&pg=1&cao=on&ft=48.105.8&pos=1>.
- ³⁷ Charles K. Wilkinson and Marsha Jill, *Egyptian Wall Paintings: The Metropolitan Museum of Art's Collection of Facsimiles* (New York: Metropolitan Museum of Art, 1983), 155.
- ³⁸ Austen H. Layard, *The Monuments of Nineveh: From Drawings Made on the Spot I* (London: John Murray, 1894), pls. 86–87.
- ³⁹ Davies and Davies 1933, pl. 12.
- ⁴⁰ MMA 30.4.103, <http://www.metmuseum.org/Collections/search-the-collections/548568>.
- ⁴¹ William K. Simpson, “The Vessels with Engraved Designs and the Repoussé Bowl from the Tell Basta Treasure,” *American Journal of Archaeology* 63 (1959): 43–44; Betsy M. Bryan, “The 18th Dynasty before the Amarna Period (c. 1550–1352 BC),” in Ian Shaw (ed.), *The Oxford History of Ancient Egypt* (Oxford: University Press, 2000), 240 for other types of Levantine vessels.
- ⁴² Robert du Mesnil du Buisson, “L'ancienne Qatna ou les ruines d'El-Mishrifé au N.-E. de Homs (Émèse): Deuxième campagne de fouilles (1927). La butte de l'Église,” *Syria* 9 (1928): 9, 12, 23–24.
- ⁴³ Mirko Novák and Peter Pfälzner, “Ausgrabungen in Tall Mišrifé-Qatna 2000: Vorbericht der deutschen Komponente des internationalen Kooperationsprojektes,” *Mitteilungen der deutschen Orient-Gesellschaft* 133 (2001): 164; Marian H. Feldman, *Diplomacy by Design: Luxury Arts and an “International Style” in the Ancient Near East, 1400–1200 BCE* (Chicago: University Press, 2006), 109.
- ⁴⁴ Jean Bottéro, “Les inventaires de Qatna,” *Revue d'Assyriologie et d'archéologie orientale* 43 (1949): 142–143.
- ⁴⁵ Compare with, e.g., Amarna EA 22, II lines 37–8 in William L. Moran, *The Amarna Letters* (Baltimore/London: Johns Hopkins University Press, 1992), 53 and 59.
- ⁴⁶ Bottéro, 22; Marten Stol, *Studies in Old Babylonian History*, Publications de l'Institut historique et archéologique néerlandais de Stamboul 40 (Leiden: Netherlands Instituut voor het Nabije Oosten, 1976), 41; Brigitte R. Groneberg, *Die Orts- und Gewässernamen der altbabylonischen Zeit*, Répertoire géographique des

textes cunéiformes 3 (Wiesbaden: Reichert Verlag, 1980), 239.

- ⁴⁷ Peter Roger S. Moorey, "The Eastern Land of Tukrish," in Uwe Finkbeiner, Reinhard Dittmann and Harald Hauptmann (eds.), *Beiträge zur Kulturgeschichte Vorderasiens: Festschrift für Rainer Michael Boehmer* (Mainz: Philipp von Zabern, 1995), 439–448; Peter Roger S. Moorey, *Ancient Mesopotamian Materials and Industries: The Archaeological Evidence* (Winona Lake: Eisenbrauns, 1999), xxiiid. For Ran Zadok (personal communication), "if—and only if—Old Babylonian Tukrish is identical with later (Neo-Assyrian) Ti-ik-rish (...), then it may be located near the border of Mannai with Zamua, i.e. in eastern Kurdistan;" Ran Zadok, *The Ethno-linguistic Characters of Northwestern Iran and*

Kurdistan in the Neo-Assyrian Period (Tel Aviv: Archaeological Center Publications, 2002), 18, 24, 26.

- ⁴⁸ Pfälzner 2011, 154.
⁴⁹ For other possible uses of the rosette, see Pfälzner 2011, 156.
⁵⁰ Piotr Michalowski, "Magan and Meluhha Once Again," *Journal of Cuneiform Studies* 40 (1988): 162–163.
⁵¹ BM 123062 in Edith Porada, *Ancient Iran: The Art of the Pre-Islamic Times* (London: Methuen, 1965), pl. 18; http://www.britishmuseum.org/research/collection_online/collection_object_details/collection_image_gallery.aspx?assetId=324082&objectId=367575&partId=1.