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COIN HOARDS

MEDIEVAL AND MODERN HOARDS

KHUSRŌ II year 1 Hoard - Methodology, the Mint Mark WH,
and Khūzistān between Khusrō II and Varhrān VI

8. Unknown before 2018

by

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A KHUSRŌ II YEAR 1 HOARD

Methodology, the Mint Mark WH, and
Khūzistān between KhusrŌ II and Varhrān VI

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8. Unknown before 2018**[PLATES 42–46]***Dep.* 590–1 AD198 \mathcal{A} drachms*Disp.* in European and American trade

Abstract / Introduction: The discussion of an unprovenanced hoard of the first regnal year of KhusrŌ II assembled presumably in Khūzistān offers new insights into the political situation of the province during the war between KhusrŌ II and Varhrān VI in 590–1. Furthermore it gives the opportunity to discuss the sequence of issues of both rulers. The mint abbreviation WH previously thought to represent Vēh-Ardashīr in central Iraq or Vēh-Andiyōk-Shāpūr in Khūzistān seems more likely to be the mint in Khūzistān according to the new data. The example of this hoard also allows one to reflect on the methodology in dealing with unprovenanced parcels.

Keywords: KhusrŌ II, Varhrān VI, Khūzistān, Vēh-Andiyōk-Shāpūr, methodology of hoards.

Establishing the character of a hoard or parcel

In April to May 2018 an unprovenanced group of coins in private possession was recorded in Hamburg, and soon after dispersed in trade.¹ The group had been in the stock of the owner for a considerable time. It can no longer be established where the hoard originated. Unprovenanced hoards or parcels raise ethical and methodological questions, which are often not considered in coin reports. Leaving a parcel or hoard unrecorded would deny scholarship and world heritage valuable information for reconstructing the past. While hoards recorded in an archaeological context are the more meaningful, unprovenanced hoards are still much more than just their individual components. The composition according to rulers, mints and years is important data to note, even if the group might only be a parcel from a larger hoard.

In order to use information from any unprovenanced group of coins, it must first be established that they belonged to a single hoard, or at least form a parcel from a hoard, i.e. that the composition of the group contributes meaningful historical information. This first step is often neglected. Assemblages of Sasanian coins in

¹ I am grateful to the owner of the present hoard not only for directing my attention to it, but also for generously allowing me to study this parcel, and taking all the time I needed. I am also grateful to Matthias Naue and Katrin Gutberlet for photographing a selected group of coins. François Gurnet, Hodge Mehdi Malek, Jean-Pierre Righetti, and Christian Schaack provided me with information on the coins in the Johnson and their private collections. Melody Lawrence and Susan Tyler-Smith edited the English text to make it readable, and added valuable comments.

dealer's stock are sometimes taken as a hoard(s).² Two points have to be checked in order to establish the probability of any group of coins forming a hoard or a parcel. If we have arguments in favour of these, in regard to these two issues, then the assumption that the coins form a hoard or a parcel can be reasonably accepted as a base for further studies.

1. Establish that the coins come from a common original source (original provenance). This is necessary, especially if parcels from the same hoard are found in different private collections or dealers' stocks.
2. Ask whether the composition of the hoard, in comparison to others, is reasonably plausible. That is, have coins been added which are unlikely to have belonged to the group, or have coins been subtracted. An example of the latter is where the rarer issues have been removed (negative selection) or, perhaps the opposite, broken and unattractive coins have been subtracted (positive selection).

The study should start with the first step, that is, the observation of features on the coins' surfaces. This could suggest which coins were deposited together some hundreds, or even thousands, of years ago. Such a study should examine surface colouring, soil deposits, the mineralization of the surface, similar wear, etc. This is much more difficult if the coins have been cleaned. In a slightly 'diluted' parcel it will be uncertain whether some coins (before the closing date) are 'intruders' or belong to the original hoard. A small group of dubious coins can be tolerated; a larger group (depending on the research question) renders the information obtained from the parcel unreliable.

The second step – is the composition of the hoard plausible? – can add strong evidence to support the identification of a group as belonging to a single hoard. It is almost independent of the first, but is able to contradict a 'yes' answer to the first test. One must be aware that it is possible to put together a plausible hoard with random coins from the market. Asking these two questions is necessary in order to distinguish a random assemblage of similar coins from an original but unprovenanced hoard or parcel.

The present parcel: physical characteristics and conservation

According to the owner the group originally comprised 198 coins which were covered with a thick green copper corrosion product which made the preliminary identification, even of the ruler or his crown-type, almost impossible (**Pl. 43, 125**). As is obligatory for other archaeological finds, a report on the conservation efforts is necessary also for coins, because the appearance, weight, and the metal composition of the surface of a coin might be altered considerably. The owner first tried, unsuccessfully, to

² Over the past 25 years I have observed, in trade, that such large assemblages of Sasanian drachms, and of Islamic dirhams, often contain hoard material. These are obvious by concentrations of coins up to a certain date which could be assumed to be the closing date for the original parcels. However, these parcels are immersed in larger assemblages of coins from various sources. It seems almost impossible to filter out the hoard groups and still have reliable data about the composition of the original hoard. While the coins immediately running up to the closing date could be identified, the others could not.

remove the thick layer with citric acid. He then tried an unspecified household product designed to remove calcium deposits together with aluminium to create an electro-chemical reduction-oxidation (red-ox) reaction. Remaining cuprous oxide (cuprite) and reduced copper was then removed with the acid component of the chemical. This still left patches of redeposited silver and a black discolouring of parts of the surface. During the time when the hoard was in the ground copper had leached to the surface leaving the remaining silver metallic structure of the coin extremely brittle. Removing the shell-like copperish 'crust' caused also a drastic weight reduction with all the coins.

The cleaned coins were brittle and many fractured in the process. The latter were not treated any further. Whole coins were annealed to stabilise the structure. Finally a special brush with silver bristles was used to remove the redeposited silver and restore the shine. 105 coins survived more or less intact and marketable (nos 1, 2, 4–7, 10, 12–17, 19, 21–28, 32, 34–37, 40, 44, 47, 47, 55, 56, 59, 60–62, 64–66, 69, 71, 73, 77–79, 81–84, 87–89, 91, 93, 98–105, 107, 108, 110, 113–119, 121, 126, 129, 168–179, 181–183, 185–198 = inv. nos 1 to 105 (**Pls 42-45, 6, 19, 21, 71, 82, 83, 99, 100, 113, 168–179, 181–183, 185–195**)); a further 25 remained nearly complete (nos 3, 9, 11, 18, 31, 33, 38, 42, 43, 45, 46, 49, 51, 54, 67, 68, 72, 74, 80, 85, 86, 90, 109, 111, 129 = inv. nos 106–130). It is obvious that this method of cleaning is not recommended.

Later, the remains of 68 further coins were given to the author, broken into small fragments. An attempt was made to put the broken pieces together to yield more mint / date combinations. 45 coins could be restored completely or at least to half or more of their original surface area (nos 8, 20, 29, 30, 39, 41, 50, 52, 53, 57, 58, 63, 70, 75, 76, 92, 94–97, 106, 112, 120, 122–125, 127, 130–144, 180, 184 = inv. nos 131 to 175 (**Pls 42-44, 20, 76, 125, 180, 184**)). The remainder were tiny fragments and silver dust (nos 145–167 = inv. nos 176–198).

Damage and the removal of metal through leaching and cleaning considerably reduced the weight of the coins. Where one would expect a weight of 4.15 grams or slightly below, the weights of the first group (inv. nos 1 to 105, see above for cat. nos) mostly lie between 3.6 and 3.8 grams. These coins suffered a remarkable weight loss of approximately 5% to 12%. This cannot be explained by wear, or by a randomly lower weight. The coins were not clipped. This metal loss equals roughly the copper content of a normal Sasanian drachm.³ The electro-chemical cleaning left a coin of almost pure silver. All coins have a similar surface (dis-)colouration. Surface appearance and weight loss re-enforce the argument for a common provenance.

The original thick layer of mineralization suggests a situation where the coins were exposed to an active chemical environment. This excludes any intact sheltering container, or a dry area such as a desert or the steppe, or the burying of the original hoard within a building or construction, except, of course, a sewer. A perishable container such as leather or textile bag seems to be likely.

³ Gordus (1995), p. 618, overestimates slightly the silver content, because his technology did not penetrate the surface, and cleaned silver drachms show always a silver enrichment. Sodaei *et al.* (2013). Heidemann, Riederer, Weber (2014), pp. 89–91.

The present parcel: its composition

The composition of the hoard is plausible. The largest group of coins is from the closing year, year 1 of Khusrō II (590–1). The final years of his predecessor Hormizd IV (579–90), are also the most frequent in the parcel, although no coin from the rare year 13 could be identified among them. Additionally, there were three coins of Khusrō II from much later dates, the years 25 (614–15) and 28 (617–18) of his reign. Looking at the surfaces of the latter, they seem less porous than the others in the parcel. This suggests they might have had a different hoard history although, looking at their weight loss, the chemical environment was not much friendlier to them. They endured the same harsh cleaning process and were probably also originally coated in green copper corrosion product. These three coins can be designated modern intruders into the parcel. This suggestion could be disputed as the parcel is unprovenanced. They do not belong to the expected composition of the rest of the hoard and, in theory, could have been added to the group later, after the hoard's main assembling phase had been concluded. The parcel can, nevertheless, be analysed as if it closed in regnal year 1 of Khusrō II as the composition of the majority of the group supports the assumption that these coins formed an original hoard or parcel.

It cannot now be ascertained whether the group formed a complete hoard or just a random parcel. The original 198 coins were probably neither positively nor negatively pre-selected. The large group of year 1 coins argues against any negative selection. The large group of brittle unattractive coins suggests there was no positive selection either. The mineralization had rendered any pre-cleaning selection impossible. The destruction of individual pieces through cleaning was undoubtedly random, although the thinner coins of Hormizd IV seem to be more affected. The integrity of the parcel as a source for numismatic information can be established with reasonable certainty.

Dating

The present hoard is the first recorded parcel with a closing date of Khusrō II's first regnal year. This closing year can be firmly dated between early / mid July or early August 590 to end of June 591, as established by Susan Tyler-Smith.⁴ The events of the year were dominated by the war between Khusrō II Parwīz and Varhrān VI Chōbīn (590–2). Depending on the commencement of the first series of Khusrō (see below) it might be even dated to the end of the year 590.

Content – geographical distribution – the mint WH

The geographical distribution of the coins of Khusrō II's first year within the hoard is indicative of the region in which the hoard might have been mainly assembled. The assumption is that coins of mints closer to the location of the final deposition are represented in higher numbers than those from more distant mints. One has to bear in mind that the circulation of coins in the Sasanian Empire was usually quite rapid, with coins moving from one end of the empire to the other in a short span of time. It

⁴Tyler-Smith (2004).

can be assumed that the recent coins in a hoard, or in the present hoard specifically those of the closing year 1, had not travelled far from the place of origin

Hormizd IV: A small but significant group of eastern Iranian drachms from the reign of Hormizd IV is noteworthy. Three coins came from APL (Abrashahr = Nīshāpūr), one from HL (Harāt), two from ML (Marw) and one from the briefly issuing mint MLW WN'LT (Marw-win(n)ard-Ohrmazd). This mint name was recently convincingly read and attributed by Rika Gyselen, after earlier attempts suggested Marw al-Rūd.⁵ The location of Marw-win(n)ard-Ohrmazd is not yet certain but it is probably situated in eastern Khurāsān. Presumably, that mint was established or re-named during the re-emergence of Sasanian power in the east under Hormizd IV.

Khusrō II: The hoard shows that some time had already passed within the regnal year 1 of Khusrō when the hoard was closed due to the wide geographical range of mints. Six mints for year 1 cover a large territory in Fārs, Khūzistān, south and central Iraq:

<i>Abbr.</i>	<i>Identification</i>	<i>No. of coins</i>
AW	probably Hormizd-Ardashīr, later Sūq al-Ahwāz in western Khūzistān	5
AY	probably Ērān-Xvarrāh-Shāpūr, near Susa, later al-Shūsh in western Khūzistān	12
BYSh	Bīshāpūr, later Sābūr, in Fārs	1
MY	probably Mēshān, or Maysān in southern Iraq	1
WH	Vēh-Ardashīr, the old Seleukia in central Iraq; ⁶ or Vēh-Andiyōk-Shāpūr later Gondē-Shāpūr, south of Dizfūl in western Khūzistān	7
WYH	Vēh-Kavād, later Bihqubād in central Iraq	2

Khusrō II's coins represent at least 14% of the parcel (28 coins). Three mints stand out and form a group of 24 coins: AW, AY and WH. All three can with reasonable confidence be located in western Khūzistān. The eastern Khūzistānī mints LAM (Rām-Hormizd) and LYW (Rēv-Ardashīr), east of the Kārūn are absent for Khusrō II in the parcel. AW stands presumably for Hormizd-Ardashīr, the later Sūq al-Ahwāz.⁷ AY is identified with reasonable confidence by archaeological and literary evidence as the capital of Khūzistān, Ērān-Xvarrāh-Shāpūr, a site called Kerkhā about 17 kilometres north-west of Susa, which later became al-Shūsh.⁸

The abbreviation WH is debated. Tyler-Smith (2017) favoured Vēh-Ardashīr, a city close to Ctesiphon in central Iraq.⁹ Nikolaus Schindel, however, argued in favour

⁵ Gyselen (2013). Schindel (2016), p. 274.

⁶ Hauser (2007)

⁷ Tyler-Smith (2017a), p. 120.

⁸ Gyselen and Gasche (1994); Tyler-Smith (2017), pp. 120–1.

⁹ Tyler-Smith (2017a), p. 131.

of Vēh-Andiyōk-Shāpūr in Khūzistān. This has been accepted by Rika Gyselen.¹⁰ Schindel compared the styles of the three mints AW, AY and WH for the period between Varhrān IV (388–99) and Pērōz (457–84), before the alleged centralisation of die production. He found enough stylistic similarities within the group to argue that WH must also have been a mint in Khūzistān. He concluded that it should be located at Vēh-Andiyōk-Shāpūr, one of the largest cities in Khūzistān.¹¹

In the ‘Year 12: Berlin 2016’ hoard studied by Tyler-Smith the two last years 11 and 12 (38.97 %; year 11 = 29.62%; year 12 = 7.53%) predominate, possibly indicating that the coins of these final years had not travelled too far from their originating mints. Two mints stand out and make up over 40% of the parcel’s content of 1,950 coins: WH (22.46 %), and AY (19.16 %). They are followed at some distance by MY (8.04 %), LAM (6.34 %) and AW (6.13 %). LAM is most probably Rām Hormizd or later Rāmormuz in eastern Khūzistān.¹² If we examine the two final years, 11 and 12 (760 coins), then the origin of the hoard in the vicinity of WH in the region of Khūzistān and southern Iraq becomes even more defined: WH (276 coins = 36.32 %), AY (152 coins = 20.00 %), MY (66 coins = 8.68 %), LAM (55 coins = 7.24 %) and AW (54 coins = 7.11 %), with a total of 79.35 %. The hoard is likely to have been assembled mainly between Vēh-Andiyōk-Shāpūr and Ērān-Xvarrah Shāpūr. The evidence of Schindel’s stylistic study, the ‘Year 12’ and now ‘Year 1’ hoards strongly suggests that WH refers to a mint in Khūzistān: one of the largest cities, Vēh-Andiyōk-Shāpūr, is the most likely candidate for a mint of such high productivity.

The present ‘Year 1 hoard’ seems likely to have been assembled in western Khūzistān, in the area of these three cities, Vēh-Andiyōk-Shāpūr, Hormizd Ardashīr and the capital Ērān-Xvarrah-Shāpūr, while the other year 1 coins from Fārs (BYSh = Bīshāpūr, later Sābūr),¹³ southern (MY = probably Mēshān)¹⁴ and central Iraq (WYH = Vēh-Kavād)¹⁵ might have travelled to that area or were picked up later by a travelling owner.

Historical context: the conflict between Khusrō II and Varhrān VI

While the context of burying any hoard must always be circumstantial, a ‘Year 1 hoard’ of Khusrō II suggests a specific political context. The history of this war of

¹⁰ Gyselen (2010), p. 136.

¹¹ Schindel (2004) pp. 169–70. Schindel (2005) pp. 290–2.

¹² Tyler-Smith (2017a), p. 125.

¹³ Tyler-Smith (2017a), p. 123.

¹⁴ Tyler-Smith (2017a), p. 126.

¹⁵ Tyler-Smith (2017a), p. 131.

succession is usually seen through the lenses of the literary sources focused on Iraq,¹⁶ or from the Armenian¹⁷ and Byzantine¹⁸ perspectives, and the Persian perspective in the Islamic period.¹⁹ Numismatics, however, allows one to move one's gaze towards individual regions. While Tyler-Smith reconstructed meticulously the chronology of the ascension of Khusrō II and Varhrān VI by using the numismatic evidence to corroborate the literary sources, we have no study yet about how the power struggle between the two claimants unfolded in the provinces. First, the chronology and sequence of coin issues established by Tyler-Smith will be refined and discussed.²⁰ Secondly, we can identify the extent of the realm of Varhrān VI and the loyalties of the provinces to the rival *shāhānshāhs*.

The parcel has to be contextualised within the historical setting of the year 590–1. This saw three different rulers: Hormizd IV in his 13th regnal year lasting for some days or weeks at most, and Khusrō II and Varhrān VI for whom it would have been their first regnal year. The year 591–2 was their second year. Tyler-Smith compiled an extensive list of issues of these years, which is supplemented below by additional coins, which have since appeared in the literature and various collections.²¹ Coins in Tyler-Smith's list will be in principle not reiterated here, except for some noted corrections in identification and inventory numbers.²² For all the mint / year combinations which do not have a footnote see Tyler-Smith (2004), pp. 53–4 for number and location of specimens.

The distribution of mints striking for Hormizd IV in his 13th year does not yet show any particular pattern. Not all mints struck coins for him, but for every important region we find one or more mints. This apparent lack of a distribution pattern argues for only a brief reign in his 13th year, where dies were not yet produced for or sent out to all mints of the empire.

¹⁶ Higgins (1939), pp. 24–54. Daryaei (2009), pp. 31–3. Pourshariati (2008), pp. 127–31. Ka'bī in the introduction to Anonymous, *A Short Chronicle* (2016), pp. xxviii–xxxiv. Ya'qūbī, *Tārīkh* I, pp. 187–94. Dīnawarī, *Akhbār*, pp. 74–95. Ṭabarī, *Tārīkh*, pp. 990–1001; tr. pp. 297–317. Mas'ūdi, *Murūj*, ed. and tr. Barbier de Meynard II, pp. 212–24, ed. Pellat I, pp. 312–18. Anonymous, *A Short Chronicle*, pp. 3–12. Anonymous, *Chronicle de Séert*, pp. 465–7.

¹⁷ Sebeos, *Armenian History*, ch. 10–12, pp. 14–29.

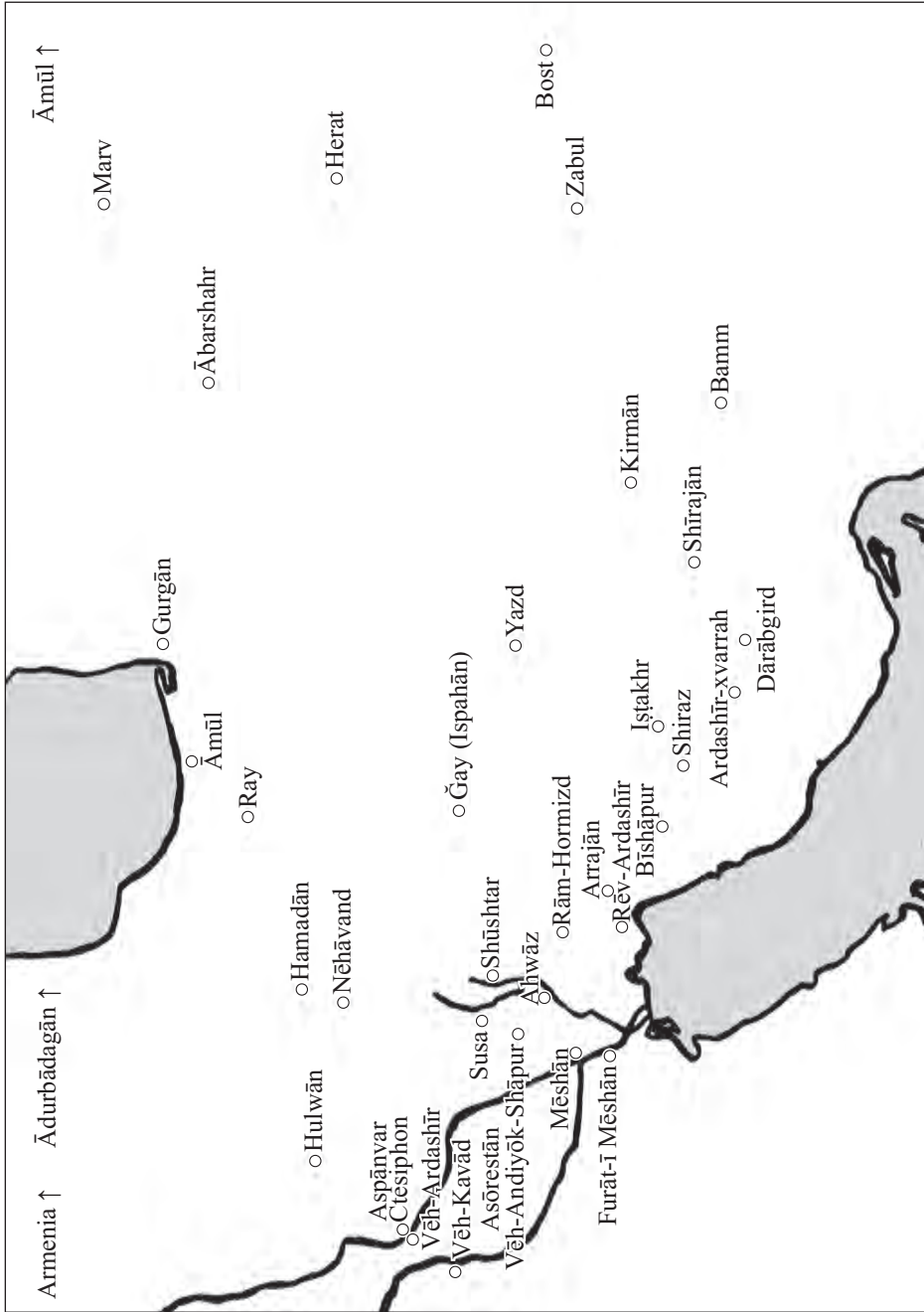
¹⁸ Theophylact, *History*, tr. Whitby, books 4 and 5. This is the most detailed account about the war between the two pretenders.

¹⁹ Dīnawarī, *Akhbār*, pp. 74–95. Anonymous, *Nihāyat*, pp. 350–98. See Pourshariati (2008), p. 45 for this anonymous source.

²⁰ Tyler-Smith (2004), especially pp. 62–5.

²¹ Tyler-Smith (2004), pp. 53–7.

²² The errors were part of the original list sent to Tyler-Smith by the collector. This private collection could be re-checked and in some cases corrected.



Map. Location of Sasanian mints

Mints recorded for Hormizd IV year 13 (590)

Khūrasān	APL ²³
Ṭabaristān	AM ²⁴
Media / Jibāl	AHM; ²⁵ GD; ²⁶ GW; ²⁷ LD ²⁸
Central Iraq	WYHC ²⁹
Southern Iraq	MY ³⁰
Western Khūzistān ³¹	WH; ³² AW ³³
Eastern Khūzistān	LYW
Fārs	DA, ³⁴ ST ³⁵
Kirmān and Yazd	BN; ³⁶ NAL; ³⁷ YZ ³⁸

A pattern, however, emerges for Khusrō II. The following is a list of all mint / year combinations it has been possible to trace in addition to the list of Tyler Smith. Again, for all the mint / year combinations which do not have a footnote see Tyler-Smith (2004), pp. 53–4 for number and location of specimens.

Khusrō II first crown, years 1 and 2 (590–2)

Azerbaijān	AT year 1 and 2 ³⁹
Media / Jibāl	AHM year 1; ⁴⁰ AYLAN year 1; GD year 1; ⁴¹ NY year 1 ⁴²

²³ Zeno.ru, no. 107678. CNG (2004), no. 655. Coll. Johnson 025373. Universität Hamburg, photo files (SB 09816).

²⁴ Universität Hamburg, photo files (SB 08123, mint re-engraved),

²⁵ Coll. Johnson 025189.

²⁶ Coll. Johnson without inventory (abbreviated w/o hereafter) no. (4.02g). Universität Hamburg, photo files (SB 12037).

²⁷ Presumably Godmān (Qumm), see Malek (2013), p. 478, while Tyler-Smith (2017), pp. 83, 112, 114 advocates Gurgān. Coll. Johnson w/o inv. no. (included in Tyler-Smith's list).

²⁸ Zeno.ru, no. 45151. Coll. Johnson 025374. Universität Hamburg, photo files (SB 12039, 12968).

²⁹ Universität Hamburg, photo files (SB 08242).

³⁰ The cited coin 'Private Berlin 1488' in Tyler-Smith's list has been re-checked at Universität Hamburg (photo files SB 01488) and is not MY year 13. Coll. Johnson w/o inv. no. (4.14g; already included in Tyler-Smith's list).

³¹ Tyler-Smith's 'Private Berlin 4063' (AY year 13) was checked Universität Hamburg, photo files (SB 04063), and had a different year.

³² Tyler-Smith's 'Private Berlin 01493' was checked again and is more likely WH, year 11.

³³ No coins in Tyler-Smith's list. Universität Hamburg, photo files (SB 12034 numeral begins three hooks of almost equal length. The first two are a bit closer together. It could also be read as 11).

³⁴ Coll. Johnson 0790-0067, 0790-0068, 0790-0069. Universität Hamburg, photo files (SB 08164).

³⁵ Zeno.ru 151246

³⁶ Universität Hamburg, photo files (SB 08153).

³⁷ Coll. Johnson 400526.

³⁸ Coll. Johnson w/o inv. no. (3.79g; included already in Tyler-Smith's list). Universität Hamburg, photo files (SB 08248, 08250).

³⁹ Curtis *et al.* (2012), no. 1814.

⁴⁰ Schindel (2014), no. 605. Universität Hamburg, photo files (SB 12971).

⁴¹ Schindel (2014), no. 608. Coll. Johnson 550099, 025053.

⁴² Universität Hamburg, photo files (SB 08990).

Central Iraq	WYH year 1 ⁴³ and 2; WYHC year 1 ⁴⁴ and 2 ⁴⁵
Southern Iraq	MY year 1 ⁴⁶ and 2 ⁴⁷
Western Khūzistān	AW year 1; ⁴⁸ AY year 1; ⁴⁹ WH year 1 ⁵⁰
Western Khūzistān	LAM year 1; ⁵¹ LYW year 1 ⁵² and 2 ⁵³
Fārs	ART year 1; ⁵⁴ BYSh year 1 ⁵⁵ and 2; DA year 1 ⁵⁶ and 2; ST year 1 ⁵⁷ and 2; ⁵⁸ ShY year 1 ⁵⁹
Kirmān and Yazd	BN year 1; ⁶⁰ NAL year 1; ⁶¹ YZ year 1 ⁶²
	<i>Varhrān VI (590–1)</i>
Khurāsān	APL year 2; BHL year 2; ML year 2 ⁶³

⁴³ Present parcel, inv. nos 101 and 102.

⁴⁴ Album (2013), no. 34. Coll. Johnson 025099, 0790-0113.

⁴⁵ Curtis *et al.* (2012), no. 2668. Schindel (2014), no. 611. Coll. Johnson 025219 (included already in Tyler-Smith's list), 550046. Universität Hamburg, photo files (SB 09364).

⁴⁶ Coll. Johnson 450628, 450629, 450630 (all three already included in Tyler-Smith's list). Universität Hamburg, photo files (SB 09698).

⁴⁷ Tyler-Smith (2017), no. 9. Album (2017), 27 (4.18g). Gorny and Mosch 241 (2016) no. 1646 (4.01g). The last coins are struck with different pairs of dies. Coll. Johnson 500636, 025215.

⁴⁸ Coll. Johnson 550498, 550499, 550500 (all three already included in Tyler-Smith's list). Private coll. England two coins (one of them already included in Tyler-Smith's list).

⁴⁹ Universität Hamburg, photo files (SB 12972, 09378, 13982).

⁵⁰ Coll. Johnson 500506 (included already in Tyler-Smith's list). Universität Hamburg, photo files (SB 09087).

⁵¹ Coll. Johnson 500208 (included already in Tyler-Smith's list).

⁵² Schindel (2014), no. 609. Universität Hamburg, photo files (SB 01545).

⁵³ Coll. Johnson 0790-0121. Universität Hamburg, photo files (SB 02872).

⁵⁴ Coll. Johnson 031305.

⁵⁵ Curtis *et al.* (2012), nos 2267–2268. Schindel (2014), no. 607. Coll. Johnson 550012, 550013, 025039, 025041, 550014. Universität Hamburg, photo files (SB 09576).

⁵⁶ No coins in Tyler Smith's list. Information coll. C. Schaack, June 2018, not yet confirmed by a photo.

⁵⁷ Coll. Johnson 025088. Universität Hamburg, photo files (SB 09628).

⁵⁸ Coll. François Gurnet (4.08g, 26mm, 3h).

⁵⁹ Private coll. England. Album (2014), no. 47 (3.19g).

⁶⁰ Coll. Johnson 450614 (included already in Tyler-Smith's list). Universität Hamburg, photo files (SB 02835, 12186).

⁶¹ Schindel (2014), no. 610. Karlsson (2015), no. D144 (4.52g, 29mm). Coll. Johnson w/o inv. no. (4.02g). Universität Hamburg, photo files (SB 08962; 11923).

⁶² Curtis *et al.* (2012), no. 3890. Album (2018), no. 94. Coll. Johnson w/o inv. no. (3.99g; included in Tyler-Smith's list), 450514, 0790-0127, 0790-0128, 0790-129. Universität Hamburg, photo files (SB 12081).

⁶³ Universität Hamburg, photo files (SB 12973).

Media / Jibāl	AYLAN year 1 (and a gold <i>dīnār</i> ⁶⁴); GD year 1; ⁶⁵ LD year 2; ⁶⁶ NY year 1 ⁶⁷
Central Iraq	WYHC year 1 ⁶⁸
Southern Iraq	MY year 1 ⁶⁹
Western Khūzistān	AW year 1; ⁷⁰ AY year 1 ⁷¹

No coins of Varhrān VI are known for eastern Khūzistān, Fārs, Kirmān, and Yazd, as far as the mint abbreviations are identified.

The end of the reign of Hormizd IV was closely connected with the rise to power of Varhrān VI Chōbīn.⁷² After his successful campaign in the East, Varhrān fearing Hormizd rebelled and marched toward Ctesiphon with his army. A faction of the nobility who had suffered under Hormizd deposed the *shāhānshāh* early in his 13th regnal year (after the Persian New Year on 27 June 590). Shortly afterwards Hormizd was killed. During the revolt Khusrō, the heir apparent, fled to Azerbaijān. Ya'qūbī, Dīnawarī, the anonymous *Nihāyat* and other chroniclers report that while Varhrān was in Rayy, he struck many drachms in the name and with the portrait of Khusrō and sent them to Hormizd in Ctesiphon.⁷³ No coins of either Varhrān or Khusrō are known for Rayy dated their regnal year 1. While these unknown coins would have been a design of Varhrān's choice, it is unlikely that Khusrō would have continued that same design during or after his own war against Varhrān. If they exist at all, their design would be different from any known series.⁷⁴ Some nobles made Khusrō return to Ctesiphon and he succeeded his father Hormizd as *shāhānshāh* in the summer of 590, soon after the Persian New Year. This was the start of year 1 of his reign.

⁶⁴Gyselen (2004) p. 86, nos AV89, AV90. Peus (2003), no. 805. CNG *et al.* (1999), no. 681 (= CNG [2000], no. 800). CNG (2015a), no. 190 (= Zeno.ru, no. 158968).

⁶⁵Gyselen (2004) p. 124, nos 269–270. Zeno.ru, nos 145739, 71089. Peus (2000), no. 284. CNG (2003a), no. 50. CNG (2003b), no. 902. Gorny and Mosch (2003), no. 1494. CNG (2004a), no. 658. CNG (2004b), no. 898 (= CNG [2016], no. 542 = Zeno.ru, no. 172513). Nelson (2011) 376, no. 975 (= Baldwin's Auctions *et al.* [2016], no. 630 = Zeno.ru, no. 164072). Heritage (2012), no. 23218. Baldwin's Auctions *et al.* (2013), no. 223. CNG (2015b), no. 243. Gorny and Mosch (2015a), no. 1462. Coll. Johnson (5 coins, two of them included in Tyler-Smith's list). Universität Hamburg, photo files (SB 12047; 12171).

⁶⁶Coll. Johnson 0790-0085, w/o inv. no.

⁶⁷Gorny and Mosch (2004), nos 1634, 1635. Elsen (2007a), no. 601 (= Elsen [2007b], no. 689). Peus (2015), no. 131.

⁶⁸Gyselen (2004) p. 124, nos 271–272. Schindel (2014), nos 617–618. Zeno.ru, nos 65176, 107710, 145441, 167091. CNG (1999), no. 820. CNG (2004b), no. 899 (= CNG [2005], no. 188). CNG (2011), no. 527 (= Zeno.ru, no. 61186). Gorny and Mosch (2015b), no. 1799 (= G and M [2017], no. 1381 = G and M [2018], no. 3218). Goldberg (2017), no. 2173. Lanz (2018), no. 76. Coll. Johnson (7 coins). Universität Hamburg, photo files (6 coins: SB 06214, 06215, 08291, 07976, 07977, GT-0002).

⁶⁹Album (2014), no. 43 (3.94g = Zeno.ru, no. 133333). Coll. Johnson 0300029, 025384, w/o inv. no. Universität Hamburg, photo files (SB 07975 clipped; 09354).

⁷⁰Zeno.ru, no. 35469. Coll. Johnson 025385, w/o inv. no.

⁷¹Zeno.ru, no. 32651, 33513. Universität Hamburg, photo files (SB 08290; 12046).

⁷²Shahbazi (1988).

⁷³Ya'qūbī, *Tārīkh* I, 190. Dīnawarī, *Akhbār*, p. 83. Anonymous, *Nihāyat*, p. 351. Mas'ūdī, Murūj, ed. Barbier de Meynard, vol. 2, p. 214; ed. Pellat, vol. 1, § 634. Anonymous, *Chronique de Séert*, p. 443.

⁷⁴Tyler-Smith (2004), pp. 43–4.

The conflict between the nobles supporting Khusrō II Parwīz and those supporting Varhrān was not yet resolved. They met at the Nahrawān river in central Iraq. Negotiations turned into an armed conflict. The victorious Varhrān Chōbīn entered Ctesiphon and ascended the throne as Varhrān VI in early to mid July or early August 590, a maximum of about thirty days after Khusrō's accession. Varhrān VI began minting coins, dated year 1. There are none of his coins in the present group. Khusrō was forced to flee from central Iraq along the Euphrates to Byzantium to seek protection and assistance from the Emperor Maurice Tiberius (581–602). In January / February 591, Khusrō set out from the Jazīra with a Byzantine army to return via Nisibis to Iraq. In spring 591, Khusrō's general Mābōdh / Mebodes took the urban agglomeration Ctesiphon.⁷⁵ Varhrān withdrew to Armenia where he was defeated near Lake Urmiya. Tyler-Smith places his defeat in autumn 591, that is, after New Year 591, meaning in Varhrān's second year. No coins were struck in the west, including western Jibāl, for Varhrān in his second year as far as we know. Varhrān's defeat must have happened in his first regnal year or at the turn of the year at the end of June 591. He must have vacated Iraq, Khūzistān and even western Jibāl in his first year. He managed to escape to the east, to Khurāsān with some troops. Dīnawārī, in the 9th century, reported that Varhrān arrived in the region of Qūmis (*ard Qūmis*) which was ruled for a long time by Qārin, obviously a member of the Parthian noble family of Kārin,⁷⁶ *wālī* of Khurāsān, Qūmis, and Jurjān.⁷⁷ Originally, he had supported Varhrān, but now he acknowledged the claim of Khusrō to the throne. Qārin's troops were defeated, but Varhrān continued his march to Khwārazm and crossed the Amu Darya to the Turkish Khāqān.⁷⁸ Sebeos mentions that he fled to Balkh (BHL).⁷⁹ On his march Varhrān might have passed by Rayy (LD) and Nīshāpūr (APL), and controlled them for a while.⁸⁰ We only have coins only from his second year for the three mints APL, BHL and LD.⁸¹ All his coinage in his second year comes from Rayy (LD) and Khurāsān (APL, BHL, ML). These were mints which had not previously struck coins for him. This has consequences for the reconstruction of the numismatic series of Khusrō. After his return the latter struck his first type with a wingless crown in Ctesiphon, central Iraq, Azerbaijān, Khūzistān and Fārs, until at some point in his second year, he decided to commission a new type. The most visible change of the second series was the wings of the god of victory *Verethragna* on his crown. He obviously did not change the crown immediately after retaking Ctesiphon in spring 591.⁸²

⁷⁵ Theophylact, *History*, tr. Whitby, book. 4.6.1 to 6.10. For the dating see Tyler-Smith (2004), p. 64.

⁷⁶ Pourshariati (2008), pp. 294–8. Pourshariati (2017).

⁷⁷ The anonymous *Nihāyat*, p. 380, stretches his realm to Byzantium (bilād al-Rūm) which is too far.

⁷⁸ Dīnawārī, Akhbār, ed. Shayyāl, pp. 94–5. Anonymous, *Nihāyat*, p. 380. The *Nihāyat* was probably written in the eighth century AD. See also Pourshariati (2008), pp. 129, 296.

⁷⁹ Sebeos, *Armenian History*, p. 22.

⁸⁰ Shahbāzi (1988). Bosworth in tr. Ṭabarī, *Tārīkh*, p. 314, fn 736. Both authors mention that Varhrān passed al-Rayy and Nīshāpūr on his flight, but the literary sources cited do not provide this information. Presumably, both refer implicitly to numismatic information.

⁸¹ Anonymous, *A Short Chronicle*, pp. 3–12, here p. 8, speaks about his flight to Azerbaijān.

⁸² Tyler-Smith (2017), pp. 67–9.

Coins are the only evidence for who may have controlled the provincial cities of the empire. According to the literary evidence, Azerbaijan was a stronghold of Khusrō, and we do not find any coins of Varhrān from that region. Tyler-Smith has already noted that Khusrō was not acknowledged in the east, but neither was Varhrān in his first regnal year, according to our present knowledge of his coinage. The sequence of minting Khusrō II's first crown type and Varhrān VI's coins cannot yet be sufficiently established. Varhrān withdrew from the West late in his first year or at the turn of his second year. Khusrō's wingless type continued into his second year. It must be questioned whether Khusrō's first crown type (years 1 and 2) was struck before Varhrān's issues in summer 590, after his withdrawal in late spring 591, or both. Two possible sequences of issues have to be considered here.

1. Khusrō began to strike his wingless type before Varhrān's issues started, or parallel with them in certain regions loyal to Khusrō. The same type was then struck also after Varhrān withdrew in late spring 591. These coins would all have been dated year 1. We would therefore have two phases of minting for Khusrō in his first regnal year (590/1). The first type then continued into Khusrō's second year (591/2). This scenario seems, however, unlikely if we consider another numismatic feature. The fabric of Varhrān's coins are a continuation of the broad and thin coins of Hormizd IV, while all of Khusrō's wingless first type coins are somewhat smaller in size and thicker in fabric. There is no difference, in fabric and style, in Khusrō's issues to suggest two phases of issue – before and after Varhrān's coin issues. It seems unlikely that the mints changed the fabric of the coins they minted three times in a year: first striking coins with thin fabric for Hormizd IV in his year 13 (590); then striking using a thicker fabric for Khusrō II in his first year; then reverting to a thin fabric for Varhrān VI in his year 1; finally returning to a thicker fabric for Khusrō's issue late in his year 1. The sequence of Khusrō's first series continued from year 1 into year 2, before the type changed and the winged crown was used.
2. All of Khusrō II's coins dated year 1 (and of course year 2) follow after Varhrān's issues dated to his year 1 (590/1) and his withdrawal from Iraq and western Iran. This simplifies the problems concerning style and fabric raised above. If this is the case, though, why are there no coins of Varhrān among the recorded coins of the present parcel? Were Varhrān's coins already being removed, after the withdrawal of Varhrān to the East, by people loyal to Khusrō? These questions can only be answered by the study of more hoard material and die studies.

Khūzistān during the conflict

The additional material for Khūzistān, provided by the present hoard, allows us to take a closer look at a province otherwise not mentioned by the sources writing about the conflict. The hoard was probably stowed away some months into Khusrō II's first regnal year (from July 590 to late June 591), probably very late in that year (if one follows the second sequence of issues suggested above). Today, coins of the first reign of Khusrō II are regarded as scarce as are coins of Varhrān Chōbīn. The pattern

of dies identified in the present parcel, plus the additional coins, do not indicate a small issue in year 1. It can be assumed that these coins were later removed from circulation, perhaps at earliest during years 2 and 3 as a hoard of year 3 published by Rika Gyselen indicated,⁸³ at the latest during the massive withdrawal of all earlier coins following the reform in the regnal year 12 (601–2).⁸⁴

Table 1. Dies of Khusrō II year 1

<i>Mint</i>	<i>No. of coins</i>	<i>Obv. dies</i>	<i>Rev. dies</i>
AY ⁸³	14	7	7 or 8
AW ⁸⁴	16	5	7 to 8
WH ⁸⁵	9	4	6 or 7

Although the identification of the mint abbreviations AW, AY, WH, and MY are not established with final certainty, there is enough evidence to identify them with cities in Khūzistān and in the latter case in southern Iraq. The large number of coins from Khūzistān from the present parcel allows us to take a closer look at the situation in that province.⁸⁸ Southern Iraq and the western part of Khūzistān, west of the Kārūn, must have fallen at some point into the hands of Varhrān in his first regnal year. The mints of Hormizd-Ardashīr (AW), Ērān-Xvarrāh-Shāpūr (AY), and Mēshān (MY) in southern Iraq produced substantial numbers of coins for both Varhrān VI and Khusrō in their first year. Among these mints Mēshān seems to be an exception because it also minted in Khusrō’s second year with the first crown. Khusrō’s second year runs parallel with the second year of Varhrān VI, who was by then in the east. The mint of WH, probably Vēh-Andiyōk-Shāpūr, lies also west of the Kārūn, but no coin of Varhrān is yet known for this mint, but its discovery would not be a surprise. None of the mints east of the Kārūn, such as Rām-Hormizd (LAM) and Rēv Ardashīr (LYW) seem to have minted for Varhrān, and neither did Bīshāpūr (BYSh), Dārābjird (DA), or Stakhr (ST) in Fārs, nor the Kirmānī mints BN and NAL, or Yazd (YZ), as far as we know. Most of the mints in eastern Khūzistān and Fārs – apart from (currently) LAM, ART and ShY – continued to mint into Khusrō’s second year with the first crown, when he had already returned to Ctesiphon from Byzantium. In the current

⁸³ By date, the closest parallel hoard for comparison was described by Rika Gyselen (1981). 199 coins were recorded from this unprovenanced group which has a closing date of year 3 (592–3) of Khusrō II. It did not contain any year 1 coins, but had five coins of year 2 (2nd, winged type), and a single one from year 3. No coins from Varhrān VI were included. The majority of the coins were minted at the time of Khusrō I (108 coins), suggesting a much longer assembling phase of the hoard than the presented ‘Year 1 hoard’. The most frequent mints in this ‘Year 3 hoard’ also suggest a different assembling region, probably in Media / Jibāl, because Iraqi and Farsi mints are underrepresented (BYSh, DA), except for the major mint WYHC (Vēh-az-Andiyōk-Khusrō, part of the urban agglomeration of Ctesiphon). The latter constituted about 10% of that hoard. The mints of the closing dates 2 and 3 are AT (2 coins), and one coin each of each mint GD, WH, SK and WYHC.

⁸⁴ Tyler-Smith (2017), pp. 66, 95. Ṭabarī confirms that the tax administration in the time of Khusrō II was indeed keeping coins sorted according to the different types of the rulers: coins of Perōz and Kavādh are explicitly mentioned; Ṭabarī, *Tārīkh* I, p. 1042, tr. 377.

⁸⁵ Tyler-Smith (2004), p. 55, knew only of one coin from a drawing of a 19th century publication.

⁸⁶ Tyler-Smith (2004), p. 55, knew only of 7 coins.

⁸⁷ Tyler-Smith (2004), p. 55, knew of 1 coin.

⁸⁸ For Khūzistān under the Sasanians see Wood (2013), pp. 25–6.

absence of any coins of Varhrān VI from these mints, the pattern emerges of a neutral position during the conflict or a continuous loyalty among parts of the regional elite to Khusrō, despite his absence. It allows for the preliminary hypothesis that while Varhrān VI could win over Iraq and the capital Ctesiphon, as well as the Khūzistānī regions west of the Kārūn, he did not hold the Khūzistānī region east of the Kārūn, nor Fārs, Kirmān and Yazd, which remained neutral or loyal to Khusrō. Varhrān's realm advanced as far as Ispahān in the south, but not as far as Yazd. The mint of the citadel of Ispahān (GD) is the most prolific for Varhrān in his first year, apart from the capital mint of the urban agglomeration Ctesiphon (WYHC). Ispahān may have served as Varhrān's military bulwark against Khusrō's supporters in western Khūzistān and Fārs during the conflict.

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CATALOGUE

Abbreviations used: g = grams; h = die axis by the hour of the clock; ill. = illegible; nr = not recorded

* = coin illustrated on pls 42–46.

Khusrō I Anushirwān, 531–79 AD

<i>Cat. no.</i>	<i>Inven- tory no.</i>	<i>Mint</i>	<i>Year</i>	<i>Wt (g)</i>	<i>Dia. (mm)</i>	<i>Die axis (h)</i>	<i>Comments</i>
1	001	AHM	37	3.62	32	3	
2	002	AYLAN	45	3.71	31	3	
3	106	BN	43	3.28	30	3	Damaged
4	003	BYSh	46	3.66	33	3	
5	004	BYSh	48	3.73	32	3	
6*	*005	KL	22	3.61	31	3	
7	006	LD	22	3.81	30	2	
8	144	LD	ill.	4.06	30	3	2 fragments, complete
9	107	LYW	42	3.54	32	8	Damaged
10	007	ShY	43	3.50	32	4	
11	108	WYHC	42	3.44	33	2	Damaged
12	008	WYHC	46	3.61	30	3	
13	009	WYHC	46	3.46	31	2	
14	010	YZ	41	3.67	33	3	
15	011	YZ	44	2.89	30	3	
16	012	YZ	44	3.66	31	2	Reverse pellet at 6h
17	013	YZ	48	3.53	32	3	
18	109	(...)T	45	3.47	32	4	Damaged

Hormizd IV, 579–90 AD

<i>Cat. no.</i>	<i>Inven- tory no.</i>	<i>Mint</i>	<i>Year</i>	<i>Wt (g)</i>	<i>Dia. (mm)</i>	<i>Die axis (h)</i>	<i>Comments</i>
19*	*014	APL	6	3.69	31	3:30	
20*	*135	APL	9	3.40	31	9	2 fragments, complete
21*	*015	APL	10	3.61	31	3	
22	016	ART	7	3.63	31	1	
23	019	ART	9	3.54	32	2	
24	017	ART	10	3.45	32	3	
25	018	ART	12	3.76	31	3	
26	020	AW	4	3.58	32	3:30	
27	021	AW	9	3.36	33	3:30	
28	022	AW	10	3.72	32	5	
29	131	AW	12	2.95	31	9	2 fragments
30	132	AW	ill.	2.81	31	3	3 fragments
31	110	AY	8	2.71	33	4	Damaged
32	023	AY	10	3.56	31	9	

<i>Cat. no.</i>	<i>Inven- tory no.</i>	<i>Mint</i>	<i>Year</i>	<i>Wt (g)</i>	<i>Dia. (mm)</i>	<i>Die axis (h)</i>	<i>Comments</i>
33	111	AY	10	3.42	32	9	Damaged
34	024	AY	11	3.69	34	3	
35	025	AY	11	3.41	33	3	Slightly chipped on margin
36	026	AY	12	3.62	33	10	
37	027	AY	12	3.71	33	3:30	
38	112	AY	12	3.58	32	3:30	Damaged
39	133	AY	12	3.27	34	9	3 fragments
40	028	AYLAN	10	3.53	31	3	
41	134	A(x)	ill.	3.24	34	3	2 fragments
42	113	BN	7	3.60	33	2	Damaged
43	114	BN	7	3.64	31	4	Damaged
44	029	BN?	2	3.59	33	3	
45	115	BYSh	2	3.68	32	4	Damaged
46	116	BYSh	2	3.70	31	4	Damaged
47	030	BYSh	7	3.60	32	3	
48	031	BYSh	7	3.65	31	1	
49	117	BYSh	9	2.81	30	3:30	Damaged
50	136	BYSh	9	3.66	32	3	Damaged, large hole in the middle due to thin metal
51	118	BYSh	10	3.72	30	3	Damaged
52	137	BYSh	11	3.46	30	3	2 fragments
53	138	BYSh	11	3.57	32	3	3 fragments
54	119	BYSh	12	3.66	31	3	Damaged
55	032	BYSh	12	3.55	31	3	
56	033	BYSh	12	3.62	31	3	
57	139	BYSh	1(x)	2.47	30	3	1 fragment
58	140	BYSh	ill.	2.74	29	9	2 fragments
59	034	DA	4	3.53	32	3	
60	035	DA	5	3.54	30	2	
61	036	DA	10	3.64	31	3	
62	037	DA	12	3.65	31	3	
63	141	D(A)	ill.	3.24	32	3	
64	038	GD	2	3.44	31	3	
65	039	GD	7	3.46	33	2	
66	040	GD	10	3.70	31	2	
67	120	GD	12	2.35	32	2	Damaged
68	121	GW	4	3.34	31	3	
69	041	GW	12	3.39	32	3	
70	142	G(x)	5	3.07	32	3	2 fragments
71*	*042	HL	2	3.68	31	4	
72	122	LAM	11	3.20	32	4	Damaged

⁸⁷ For the identification of the first mint letter see Pl. 42, 76A for a complete specimen (not from this hoard) from this reverse die.

<i>Cat. no.</i>	<i>Inven- tory no.</i>	<i>Mint</i>	<i>Year</i>	<i>Wt (g)</i>	<i>Dia. (mm)</i>	<i>Die axis (h)</i>	<i>Comments</i>
73	043	LAM	12	3.79	32	2	
74	123	LAM	12	3.37	32	4	Damaged
75	143	LAM	1(1), 1(2) or 1(3)	3.20	32	3	2 fragments
76*	*159	(L)D ⁸⁷	2	3.10	31	3	4 fragments, reverse pellet at 6h. Same reverse die as no. 76A *Universität Hamburg, photo files (SB 08191)
77	044	LD	5	3.64	31	3:30	
78	045	LD	10	3.51	31	3:30	
79	046	LD	12	3.67	32	3:30	
80	124	LYW	7	3.66	32	3	Damaged
81	047	LYW	12	3.57	33	3	
82*	*048	ML	12	3.43	31	8	
83*	*049	MLWW NALT	10	2.83	31	3	Slightly chipped on margin. Same dies as Universität Hamburg, photo files (SB 12043)
84	050	MY	7	3.75	33	10	
85	125	MY	8	3.50	34	3	Damaged
86	126	MY	8	3.62	32	9	Damaged
87	051	MY	9	3.58	32	3	
88	052	MY	9	3.55	33	3	
89	053	MY	10	3.78	32	3	
90	127	MY	11	3.68	34	9	Damaged
91	054	MY	11	3.41	32	3	
92	145	MY	11	3.36	33	3	2 fragments
93	055	MY	12	3.64	31	2	Corrosion hole, caused by the thin metal
94	146	MY	12	3.71	32	3	2 fragments
95	147	MY	11/12	2.88	32	3	2 fragments
96	148	MY	(1)1?	3.48	30	3	3 fragments
97	149	MY	ill.	3.14	31	3	2 fragments
98	056	NAL	10	3.51	31	3	
99*	*057	SK	12	3.54	32	8	
100*	*058	SK	12	3.66	30	3	
101	059	ST	9	3.72	30	3	
102	060	ST	11	3.75	32	2:30	
103	061	ST	12	3.68	33	3	
104	062	WH	9	3.58	33	3	
105	063	WH	11	3.74	33	3	

<i>Cat. no.</i>	<i>Inven- tory no.</i>	<i>Mint</i>	<i>Year</i>	<i>Wt (g)</i>	<i>Dia. (mm)</i>	<i>Die axis (h)</i>	<i>Comments</i>
106	150	WH	11	2.88	32	1	3 fragments
107	064	WH	12	3.37	31	10	
108	065	WH	12	3.67	33	3	
109	128	WH	12	3.66	32	9	Damaged
110	066	WYH	12	3.62	31	10	
111	129	WYH	12	3.47	30	4	Damaged
112	151	WYH	1(1), 1(2) or 1(3)	3.76	31	3	2 fragments
113*	*067	WYHC	1	3.74	31	2:30	
114	068	WYHC	2	3.64	31	4	
115	069	WYHC	3	3.58	32	2:30	
116	070	WYHC	4	3.76	31	9	
117	071	WYHC	5	3.17	31	2	Parts of the margin broken off
118	072	WYHC	6	3.56	32	3	
119	073	WYHC	7	3.66	30	3	Slightly chipped on margin
120	152	WYHC	10	3.22	30	9	2 fragments
121	074	WYHC	11	3.66	30	1:30	
122	153	(WYH)C	11	3.52	31	1	2 fragments
123	154	WYHC	12	3.58	31	9	2 fragments
124	155	WYHC	ill.	3.20	30	3	2 fragments
125*	*156	WYH (C)?	11	4.22	33	9	2 fragments, thick layer of cuprite
126	075	YZ	4	3.33	31	3	Slightly chipped on margin
127	157	YZ	4	3.06	29	3	Damaged
128	130	YZ	11	3.38	31	3	1 fragment, damaged coin
129	076	YZ	12	3.29	31	3	
130	158	YZ	ill.	3.25	30	3	2 fragments, thick layer of cuprite
131	175	ill.	2	1.13	-	-	2 fragments
132	160	ill.	7	3.00	30	3	3 fragments
133	161	ill.	7	3.16	32	10	2 fragments
134	172	ill.	10	2.48	29	3	2 fragments
135	162	ill.	11	3.89	33	5	2 fragments, complete
136	163	ill.	12	2.52	30	3	1 fragment
137	164	ill.	ill.	3.84	32	-	3 fragments, thick layer of cuprite
138	165	ill.	ill.	3.12	31	9	4 fragments
139	166	ill.	ill.	3.09	30	10?	4 fragments

<i>Cat. no.</i>	<i>Inven- tory no.</i>	<i>Mint</i>	<i>Year</i>	<i>Wt (g)</i>	<i>Dia. (mm)</i>	<i>Die axis (h)</i>	<i>Comments</i>
140	167	ill.	ill.	3.53	32	3	1 fragment, thick layer of cuprite
141	168	ill.	ill.	3.59	30	3	3 fragments, thick layer of cuprite
142	171	ill.	ill.	2.73	31	-	2 fragments
143	173	ill.	ill.	2.19	-	-	1 fragment
144	174	ill.	ill.	2.16	30	-	2 fragments
145– 167	176– 198	Fragments, all Hormizd IV, as far as they can be identified. None can be positively attributed to any other <i>shāhānshāh</i>					

Khusrō II Parwīz, first reign, 590–1 AD

In order to have a suitable sample for die studies for the mints AW, AY, and WH hoard coins were compared with photographs of coins in other collections and coins in trade. These are listed after the hoard coins.

<i>Cat. no.</i>	<i>Inven- tory no.</i>	<i>Mint</i>	<i>Year</i>	<i>Wt (g)</i>	<i>Dia. (mm)</i>	<i>Die axis (h)</i>	<i>Die comb.</i>	<i>Comments</i>
168*	*077	AW	1	3.71	29	4	A-a	
169*	*079	AW	1	3.73	29	10	A-b	
170*	*080	AW	1	3.63	30	9	B-b	
171*	*078	AW	1	3.79	30	4	C-c	
172*	*081	AW	1	3.59	31	4	C-c	
173*	*082	AY	1	3.62	30	3	A-a	
174*	*089	AY	1	3.68	30	3	A-a	
175*	*091	AY	1	3.96	29	3	A-a	
176*	*088	AY	1	3.74	31	3	B-b	
177*	*090	AY	1	3.51	30	3	B-b	
178*	*083	AY	1	3.80	29	9	C-b	
179*	*086	AY	1	3.66	30	4	C-c	
180*	*169	AY	1	3.42	29	3	C-c	2 fragments
181*	*085	AY	1	3.66	29	10	D-d	Large parts of the obverse die in the field flaked off
182*	*087	AY	1	3.60	30	3	D-d	
183*	*084	AY	1	3.65	28	10	E-f?	Reverse die blurred by a double strike
184*	*170	AY	1	3.76	28	9.30	F-h	Fragments, complete
185*	*092	BYSh	1	3.65	27	4	A-a	
186*	*093	MY	1	3.60	27	3	A-a	
187*	*094	WH	1	3.80	28	3	A-a	
188*	*095	WH	1	3.55	29	4	B-b	
189*	*096	WH	1	3.82	29	4	B-b	
190*	*099	WH	1	3.51	29	3	B-c	Shallow strike

<i>Cat. no.</i>	<i>Inven- tory no.</i>	<i>Mint</i>	<i>Year</i>	<i>Wt (g)</i>	<i>Dia. (mm)</i>	<i>Die axis (h)</i>	<i>Die comb.</i>	<i>Comments</i>
191*	*100	WH	1	3.76	29	10	B-d?	Shallow strike
192*	*097	WH	1	3.65	30	3	C-e	
193*	*098	WH	1	3.72	29	10	C-e	
194*	*101	WYH	1	3.80	30	3	A-a	
195*	*102	WYH	1	3.74	28	3	B-b	

Intrusive coins of Khusrō II, not part of the original hoard

<i>Cat. no.</i>	<i>Inven- tory no.</i>	<i>Mint</i>	<i>Year</i>	<i>Wt (g)</i>	<i>Dia. (mm)</i>	<i>Die axis (h)</i>	<i>Die comb.</i>	<i>Comments</i>
196	103	AHM	25	3.79	32	3		
197	104	PL	28	3.81	33	3		
198	105	ST	28	3.66	31	3		

Khusrō II. Coins from other sources, for comparison

Abbreviations: J = Johnson collection, London; London = anonymous private collection; R = Righetti collection; SB = Universität Hamburg, photo archive, collection SB (same coll. as in Tyler-Smith [2004] private collection Berlin).

<i>Cat. no.</i>	<i>Source</i>	<i>Mint</i>	<i>Yr</i>	<i>Wt (g)</i>	<i>Dia. (mm)</i>	<i>Die axis (h)</i>	<i>Die comb.</i>	<i>Comments</i>
A1	Mochiri ⁸⁸	AW	1	nr	nr	nr	B-f	
A2*	Goldberg ⁸⁹	AW	1	4.09	nr	nr	B-f	
A3*	SB 02462	AW	1	4.02	30	3	C-c	
A4*	SB 12058	AW	1	4.04	32	9	C-d	
A5*	J 550498	AW	1	nr	nr	nr	C-e	
A6*	J 550499	AW	1	nr	nr	nr	C-f	
A7	England 1	AW	1	nr	28	5	C-h?	
A8*	R 2620	AW	1	4.15	31	3	D-d	ex Album (2014), no. 46
A9*	England 2	AW	1	4.12	31	3:30	D-f	
A10*	J 550500	AW	1	nr	nr	nr	D-g	
A11*	Album ⁹⁰	AW	1	4.14/ 4.21	26	3h	E-b	later same coin in CNG (2017), no. 255 ⁹¹
A12*	R 1253	AY	1	4.08	30	4	B-b	
A13*	SB 12972	AY	1	4.11	30	3	F-g	
A14*	SB 09378	AY	1	4.09	29	3	G-h	
A15*	SB 09087	WH	1	3.95	30	4	A-f	
A16*	J 500506	WH	1	nr	nr	nr	D-g	

⁸⁸ Mochiri (1983), fig. 1218.

⁸⁹ Goldberg (2017), no. 2175 (<https://www.goldbergcoins.com/view-auctions/catalog/id/56/lot/119013/> accessed 19 June 2018).

⁹⁰ Album (2017), no. 29.

⁹¹ CNG (2017), no. 255 (<https://www.cngcoins.com/Coin.aspx?CoinID=339465> accessed 19 June 2018).

PLATE 42



6



19



20



21



71



76



76A



82



83



99



100



113



HEIDEMANN, METHODOLOGY, THE MINT MARK WH, AND
KHŪZISTĀN BETWEEN KHUSRŌ II AND VARHRĀN VI (1)



125



168



169



170



171



172



173



174



175



176



177



178



HEIDEMANN, METHODOLOGY, THE MINT MARK WH, AND KHŪZISTĀN BETWEEN KHUSRŌ II AND VARHRĀN VI (2)

PLATE 44



179



180



181



182



183



184



185



186



187



188



189



190



HEIDEMANN, METHODOLOGY, THE MINT MARK WH, AND KHŪZISTĀN BETWEEN KHUSRŌ II AND VARHRĀN VI (3)



HEIDEMANN, METHODOLOGY, THE MINT MARK WH, AND KHŪZISTĀN BETWEEN KHUSRŌ II AND VARHRĀN VI (4)

PLATE 46



A10



A11



A12



A13



A14



A15



A16



