Further Light on the Pāratarājas: an Absolute Chronology of the Brāhmī and Kharoṣṭhī Series

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Over the last few years, considerable progress has been made in our understanding of the coins of the Pāratarājas, kings of a small tribe that lived in present day Baluchistan in about the 2nd-3rd centuries AD.[2] In a 2006 paper, I provided a firm relative sequence of six kings, belonging to four generations, five of whom issued coins with legends in Brāhmī.[3] The following year, Harry Falk provided new readings for the names of another seven kings, arranged in three separate lines without apparent links, five of whom issued coins with Kharoṣṭhī legends.[4] However, no links between the Brāhmī and Kharoṣṭhī coins had as yet been found. As Falk noted in his conclusion (p. 178): 'For a full history, we must wait for a formal comparison of Brāhmī and Kharoṣṭhī issues to determine whether they are contemporaneous or successive.'

The purpose of this paper is to conduct this formal comparison of the Brāhmī and Kharoṣṭhī issues. I present a new coin of the Kharoṣṭhī series that is die-linked to known coins of the Brāhmī series, the first such die link between these two series. On the basis of this, and on considerations of coin style and coin sequencing, I argue that the three Kharoṣṭhī lines are subsequent to the Brāhmī series, and I propose both relative and absolute chronologies for both series. I also use this opportunity to present a coin of a newly discovered king belonging to the Brāhmī series, to resolve several unsolved issues from earlier papers, and to present the first Pāratarājas coin with a Sanskrit legend. Finally, I provide a catalogue of the Kharoṣṭhī coins as a supplement to my earlier one covering the Brāhmī series.

To recap for the sake of readers not completely familiar with these coins,[5] the coins of the Pāratarājas are found almost exclusively in the Loralai area of Baluchistan in modern Pakistan. Their coins have the common characteristic of featuring a swastika on the reverse, surrounded by a legend in either the Brāhmī or the Kharoṣṭhī script

[1] I wish to thank Harry Falk, Bob Senior and Nicholas Sims-Williams for their continuing discussions with me on these coins and the editor (classical) of this journal for very helpful comments. I am especially indebted to Bob Senior for first introducing me to the coins of the Pāratarājas, for encouraging me to collect and study them, and for continuing to share with me his knowledge, insights and information, including coin photographs. P. Anne van't Haaff generously shared with me photographs of two coins important to my presentation. Over the years, I have also benefited in my understanding of these coins from discussions with Shailendra Bhandare, Joe Cribb, Tom Mallon and Wilfried Pieper. I also thank my daughter Lily for typing parts of this manuscript.

[2] A detailed discussion of the dating of this dynasty is contained in sections 7 and 8 of this paper.

[3] Pankaj Tandon, 'New light on the Pāratarājas', *NC* 166, 2006, pp. 173-209.

[4] Harry Falk, 'The names of the Pāratarājas issuing coins with Kharoṣṭhī legends', *NC* 167, 2007, pp. 171-178.

[5] For a fuller exposition of the history of the tribe and its coinage, see my 2006 paper.

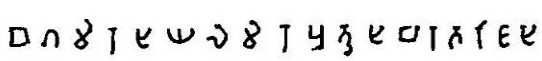
in which their tribe, the Pāratas, is named. In my 2006 paper, I identified six kings whose coin legends were in Brāhmī: Bagareva, Yolamira (a son of Bagareva), Arjuna and Hvaramira (sons of Yolamira), and Mirahvara and Miratakhma (sons of Hvaramira). In his 2007 paper, Falk identified three lines of kings who issued coins with Kharoṣṭhī legends:

Line A: Yolatakhma → Bhimarjuna,
Line B: Bagavharna[6] → Kozana → Koziya,[7] and
Line C: Datayola → Datavharna → …yola.

The work of bringing these three lines in sequence with one another and with the Brāhmī series was the primary task as yet not accomplished, and this work is the main point of this paper.

1. A New King in the Brāhmī series: Bagamira

I begin by presenting a coin of a new king belonging to the Brāhmī series. Figure 1 illustrates the only known coin of this king. It is in the collection of P. Anne van't Haaff, whom I thank for bringing it to my attention, providing the photograph and giving me permission to publish it. The coin is a silver drachm, weighing 3.66 gm and measuring 15 mm in diameter, with the usual bare-headed, diademed bust of king right on the obverse, and a swastika turning right surrounded by a circular legend in Brāhmī on the reverse. The legend, starting at 12 o'clock, reads:



Bagamirasa Yolamiraputrasa Pāratarājasa.

Thus the coin appears to be an issue of a king named Bagamira, a third son of Yolamira (who we already knew had sons Arjuna and Hvaramira).

Figure 1: Silver drachm of Bagamira

[6] Although this name is transliterated from the Persian as Bagavharna, a more phonetically understandable transliteration might perhaps be Bagapharna or Bagafarna, as the consonant *vh* is intended to be pronounced more like an English *f*. The same letter appears in the names Gondophares and Pharro.

[7] The letter *z* in the names Kozana and Koziya should properly be over-dotted (see Falk) but I leave out the dots for simplicity.

Bagamira was probably Yolamira's eldest son since the die evidence indicates that he probably ruled prior to Arjuna. The obverse die of Bagamira's coin is matched with die 4 of my 2006 paper (p. 193), which had been used by both Yolamira and Arjuna. In Figure 2, I have gathered together photos of the obverses from four coins: two issues of Yolamira, and one each of Bagamira and Arjuna, to illustrate the die links between the three. Even if the dies don't match, as one reviewer felt, they are certainly the work of the same die cutter and therefore the ensuing argument still holds. Since Arjuna's coins are die-linked to those of his father, Bagamira and his (presumably younger) brother Hvaramira, while Bagamira's are linked only to his father's and Arjuna's, it seems reasonable to suppose that Bagamira succeeded Yolamira, using his father's last drachm die to issue coins, but was then quickly supplanted by Arjuna, who continued to use the same obverse die. This argument is strengthened when we consider that Bagamira must have had a short reign, judging by the scarcity of his coins, compared to that of Arjuna. Since Bagamira's coin die is a match to the Arjuna die that is associated with one of Yolamira, rather than the Arjuna die matched with coins of Hvaramira (die 5 in my original paper), it seems likely that Bagamira's reign occurred near the early part of Arjuna's reign (i.e., before it) rather than near the late part of the reign. Finally, it also seems plausible that Yolamira, the son of Bagareva, might have chosen the name Bagamira for his eldest son and heir. The name contains two root names, taken respectively from the grandfather and father, and means Lord (Baga=God) Mithra (the solar deity).

Figure 2: Die matches from drachms of three kings[8]

[8] Yolamira 1 is coin T32 and Yolamira 2 is coin T53 from Tandon, 2006, p. 180-2, the Bagamira coin is from Figure 1 above, and the Arjuna coin is coin T35 from Tandon, 2006, p. 180.

2. The King 'Kayyana' or 'Karyyana'

In ONS 179, Bob Senior[9] published a coin whose Brāhmī legend he tentatively read as:

Kaghasya ...putra Pāratarāja

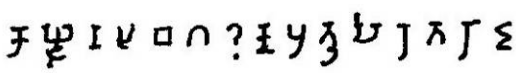
I listed this coin as no. 44 in my catalogue of Pāratarāja coins and suggested the reading:

Kayyanasa ...putra Pāratarāja

In his update on these coins, Senior suggested a tentative name Karyyana(pa).[10] The coin is illustrated in Figure 3.

Figure 3: Senior S57.1H, a hemidrachm of Kozana with Brāhmī legend

Thanks to Falk's reading of the Kharoṣṭhī legend coins, we can now identify this coin clearly as an issue of Kozana. The second letter in the name (which starts at 11 o'clock and proceeds clockwise) is the compound Brāhmī letter *ysa,* which Falk has shown conclusively is meant to represent the foreign sound *za* or a close variant thereof. The horizontal line at the top of the vertical stem of the first letter provides the medial *o* to the letter *ka*. And the *ysa* is followed by a clear *Na*. The reading is therefore quite definitive. As we know that Kozana's father's name was Bagavharna (Falk, p. 172), the full legend would read:



Kozanasa Bagavharnaputra Pāratarāja.

Indeed, a closer look at the coin image reveals the lower portion of the compound letter *rna* just preceding the previously read word *putrasa*. So this coin may confidently be added to the list of known coins of Kozana, with the unique property that its legend is in Brāhmī, the only known coin of Kozana to feature this script. As an aside, let me note that it is unfortunate that the coin shows flatness in the reverse right field, as it would have been instructive to see how the letter *vha* was rendered in Brāhmī.

[9] Bob Senior, 'A few more rare Indian ancient coins', ONS Newsletter 179, Spring 2004, p. 24.

[10] R.C. Senior, *Indo-Scythian Coins and History, Vol. 4: Supplement, Additional Coins and Hoards*, Lancaster, PA: Classical Numismatic Group, Inc., 2006, p. 20.

In reconstructing the full legend above, I have had to leave that letter as a question mark, although in all probability the letter was rendered as a *pha*.[11]

We can thus eliminate 'Kayyana' as a possible candidate for the Pāratarāja's 'Brāhmī' family tree, and add Bagamira. We can be confident that the family tree reads as in Figure 4, and replaces the one given in my 2006 paper (p.191).

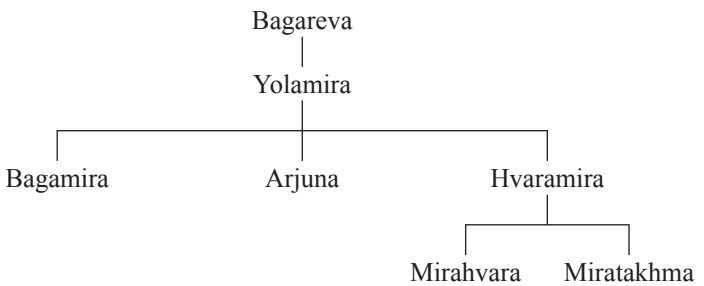


Figure 4: Pāratarāja family tree (the 'Brāhmī' family)

Before moving to the next section, I wish to briefly examine one other problematic coin, Senior (n. 11 above) S42.1, reproduced in Figure 5. Senior, p. 17, noted that the coin 'has a right facing bust and Kharoṣṭhī letter style not far removed from that of issue 280.3D', which is the Kozana issue S43.2D. The reading of the name, however, was problematic. The best that Senior could offer was Kuvhusuvhume. Falk noted that the coin had 'traces of letters which cannot be reconciled with any of the known names' (p. 177). I would like to make two observations on the coin. First, the obverse of the coin in fact shares a die with S43.2D; I have a specimen of the latter type (reproduced below as coin 1.2 in Table 3) that makes the die identification quite certain. Second, the letter forms, while superficially resembling the letter forms on other coins of Kozana, in fact have a certain over-simplicity about them that suggests to me that they actually form a pseudo-legend of blundered letters. I do not have an explanation for how this could have happened on a coin of good silver emerging from an otherwise quite sophisticated mint.

Figure 5: A problematic coin: Senior S42.1D

[11] I am indebted to Harry Falk for suggesting this.

3. A new coin of Miratakhma with Sanskrit legend

Figure 6 illustrates a coin with a feature not seen on any other coin of the Pāratarājas: the Brāhmī legend is in Sanskrit rather than the usual Prakrit. The coin is a drachm of Miratakhma, weighs 3.40 gm and has a diameter of 14 mm. The legend, starting at 11 o'clock, reads:

Miratakhmasya Hvaramiraputrasya Pārata,

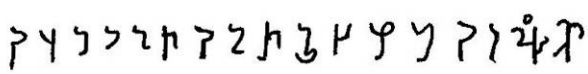
with the last *rajasya* omitted for lack of space.[12] It is easy to see that the coin's obverse is struck from die 10 of my previous die study. It is not clear if the presence of Sanskrit on this coin is of any significance. The same phenomenon, whereby coin legends which are usually in Prakrit appear occasionally in Sanskrit, occurs in the contemporary coin series of the geographically neighbouring Western Kshatrapas.

Figure 6: Silver drachm of Miratakhma with Sanskrit legend

Although the presence of a Sanskrit legend by itself is not of great significance, the letter form used in the compound letter *sya* is of some importance.[13] We see here a full *ya* below a *sa*, a form that disappeared in most of India by the middle of the second century. This coin, therefore, would suggest a date for Miratakhma no later than about AD 150, on the assumption that the letter forms used in the Pārata country were the same as everywhere else. Nevertheless, the letter forms on some of Miratakhma's coins were extremely unusual and the value of this coin for dating purposes is somewhat open to question.

4. Linking the Brāhmī and Kharoṣṭhī series

Figure 7 illustrates a new coin linking the Brāhmī and Kharoṣṭhī series for the first time. The coin is a reduced weight didrachm weighing 5.05 gm and measuring 17 mm. in diameter with a reverse legend in Kharoṣṭhī that reads, counterclockwise starting at 10 o'clock:



Kozanasa Bagavharnaputrasa Paratarajasa

[12] Pāratarāja coins frequently show this kind of truncation, where the celator simply left off the last few letters of the legend if he ran out of room on the coin. See the discussion in my 2006 paper, p. 184.

[13] Once again, my gratitude on this point goes to Harry Falk.

Figure 7: Reduced weight didrachm of Kozana with Kharoṣṭhī legend

The obverse die used for this coin is the same as die 1 from my 2006 paper (p. 192), used to strike the only known didrachms of Hvaramira and Mirahvara. Figure 8 shows the obverses of the three coins to demonstrate the die match. Thus we may surmise that Kozana, from what Falk called Line B of the Kharoṣṭhī series, may have lived at around the same time as Hvaramira and Mirahvara.

It is difficult to determine the order in which these three coins were struck purely from an examination of the state of the obverse die. However, we may get a clue from their weights. Table 1 lists the measurements of the three coins. Note that the Mirahvara didrachm, which we know comes later than Hvaramira's (since Mirahvara was Hvaramira's son), is significantly lighter than his father's and is on a smaller flan. Kozana's coin is on the same size flan as Mirahvara's but is lighter still, as it is significantly thinner. This suggests to me that Kozana's coin was issued later than the other two.

Hvaramira Mirahvara Kozana

Figure 8: Die matches from the didrachms of three kings[14]

[14] The Hvaramira coin is coin T50 from Tandon 2006, p. 182; the Mirahvara coin is coin T51 from Tandon 2006, p. 182; the Kozana coin is from Figure 7 above.

Coin No.	Inv. No.	Ruler	Weight	Diameter	Thickness
T50	493.2	Hvaramira	7.53 gm	20 mm	2-3 mm
T51	493.3	Mirahvara	6.76 gm	17 mm	3 mm
6	585.10	Kozana	5.05 gm	17 mm	2 mm

Table 1: Details of the three didrachms

A second factor suggesting that Kozana may have immediately followed Miratakhma is provided by the Brāhmī legend coin of Kozana discussed above (see Fig. 3). This is the only coin issued by any of the 'Kharoṣṭhī' kings to carry a Brāhmī legend. Surely this supports the idea that Kozana ruled immediately after the last 'Brāhmī' king, Miratakhma. Further, all of Kozana's coinage is in silver, like its Brāhmī predecessors, while the rest of the Kharoṣṭhī coinage is in billon and copper. This seems consistent with the notion that Kozana followed Miratakhma and that the economic fortunes of the dynasty started to decline thereafter.

There is yet another factor in favour of placing Kozana after the Brāhmī series. The busts of the six kings who issued coins in the Brāhmī series (Yolamira, Bagamira, Arjuna, Hvaramira, Mirahvara, and Miratakhma) are all bare-headed and right-facing, except for the die 10 drachms of Miratakhma, one of which is seen in Figure 6 above but a better example of which is shown in Figure 9. The latter show the king wearing a simple tiara with a triangular central peak and with head facing to the left. Thus Miratakhma was the first and only king in the Brāhmī series to issue coins with a crowned, left-facing bust.

Fig. 9: Silver drachm of Miratakhma, with bust left and peaked tiara

The significance of this is that Kozana also issued coins with a left-facing bust wearing a tiara. Figure 10 illustrates one such coin, which shows the small peaked tiara very clearly. Of course, Kozana also issued right-facing, bare-headed bust coins, as did Miratakhma. But since no other king in the Brāhmī series issued left-facing or crowned bust coins, it seems reasonable to associate Kozana with Miratakhma. The die link of the didrachms suggested that Kozana followed Hvaramira and Mirahvara. Since Mirahvara was Miratakhma's older brother, this temporal order is consistent:

Kozana, in following Miratakhma, would still be closely following Hvaramira and Mirahvara.

Fig. 10: Reduced weight hemidrachm of Kozana, with bust left and peaked tiara

This analysis supports the idea that Kozana may have been contemporary with or have immediately followed Miratakhma. He may have been a rival claimant to the throne or, if there was only one Pārata king at a time strong enough to issue coins, Kozana may have followed Miratakhma. Further, we know that his son Koziya also issued coins. I personally see no reason to suspect that Kozana was a rival of Miratakhma as opposed to an orderly successor. There are no known overstrikes of Pāratarāja coins by other Pāratarāja kings that would suggest contentious successions. Further, the die link and the stylistic similarities also suggest an orderly, perhaps even familial, transfer of power. Thus I would argue that Kozana was Miratakhma's successor.

Let us now turn to the kings of what Falk called Line A of the Kharoṣṭhī series. Only one king in this line issued coins. Thanks to Falk's convincing reading of his coin legends, we know that this king was named Bhimarjuna, son of Yolatakhma. Figure 11 illustrates a billon drachm of this king. It is clear that the king's bust closely resembles that on Kozana's coin in Figure 10: Bhimarjuna's bust also faces left and wears a peaked tiara. Further, there is a loop in the diadem behind the head on both coins. To place these coins in roughly the same period seems reasonable. Falk's comment on the similarity of the Kharoṣṭhī letter forms between coins of Line A and early coins of Line B also supports placing these coin types in the same period. Given the previous argument for placing Kozana shortly after Miratakhma, this suggests that coins of both Lines A and B of the Kharoṣṭhī series immediately follow the coins of the Brāhmī series. This conclusion runs counter to the assumption made by most authors hitherto, namely that the Kharoṣṭhī coins most probably were earlier than the Brāhmī coins because we are used to seeing Kharoṣṭhī being replaced by Brāhmī in northwestern India during this period. The one exception is Michael Mitchiner, who placed the Kharoṣṭhī issues last, although his dating was quite different.[15]

[15] Michael Mitchiner, *Ancient Trade and Early Coinage, Vol. 1*, London: Hawkins Publications, 2004, pp. 614-615. Mitchiner's dating of the coinage is radically different from the one proposed here; he did not even believe the series was continuous, dating the Brāhmī series to late 1st century BC – *c*.20s AD and the Kharoṣṭhī series to after *c*.70 AD.

Fig. 11: Billon drachm of Bhimarjuna, with bust left and peaked tiara

A further observation is worth making here. We know that Koziya was Kozana's son, and so it would be natural to suppose that he succeeded his father. However, an examination of Koziya's coinage reveals no direct link to the coins of Kozana. All Koziya's coins are in copper while all Kozana's are in silver. Bhimarjuna's coins show a steady reduction in silver content so that the coins could start from a fairly silver-rich billon and end in copper. Further, Bhimarjuna's coins seem stylistically to lie between the coins of Kozana and Koziya. They are stylistically similar (left-facing bust and peaked tiara) to coins of Kozana; Koziya has many types that seem quite different. The Bhimarjuna bust is proportionately small, like that on the Kozana coins, while Koziya's bust is always much larger. The coin sequence is seen clearly in the catalogue presented in Table 3 below. I would therefore propose that Koziya did not succeed his father Kozana. Rather, Kozana was succeeded by Bhimarjuna and it was only after his rule ended that Koziya came to the throne.

5. A speculative extended family tree of the Pāratarājas

Given that Lines A and B of the Kharoṣṭhī series follow the late coins of the Brāhmī series, given my proposed succession order of Kozana-Bhimarjuna-Koziya, and given the common elements in some of the kings' names:

> Yolatakhma (Kharoṣṭhī) reflects Yolamira and Miratakhma (Brāhmī),
> Bhimarjuna (Kharoṣṭhī) reflects Arjuna (Brāhmī), and
> Bagavharna (Kharoṣṭhī) reflects Bagareva and Bagamira (Brāhmī),

it seems plausible to expect that the kings of the three series were actually related. Yet there is no concrete evidence of what the relationships might be.

I would like to propose a highly speculative family tree that would combine 12 kings (seven from the Brāhmī series, two from Line A of the Kharoṣṭhī series, and three from Line B of the Kharoṣṭhī series) into one family. I need to emphasize that this tree is highly speculative, an educated guess at best. Yet it has considerable logic behind it. The proposal is summarized in Figure 12.

The proposal contains two speculative leaps. The first concerns the placing of Falk's Line A. We know it consists of:

> Yolatakhma → Bhimarjuna.

Unfortunately, we do not have any coins of Yolatakhma and therefore do not know who his father was. I would like to propose that it may have been Arjuna. Since Arjuna's father was Yolamira, the use of the root name Yola for his son's name would be quite logical in a family that seemed to like combining and re-combining the same root names. Further, we see the root name Takhma in the name of Arjuna's nephew, Miratakhma. Thus the use of the root name Takhma would also seem logical for Arjuna's son.[16] On the grounds of both its components, therefore, the name Yolatakhma seems very appropriate for Arjuna's son. And this is further supported by Yolatakhma naming his own son Bhimarjuna, thereby reflecting *his* father's name in his son's name.

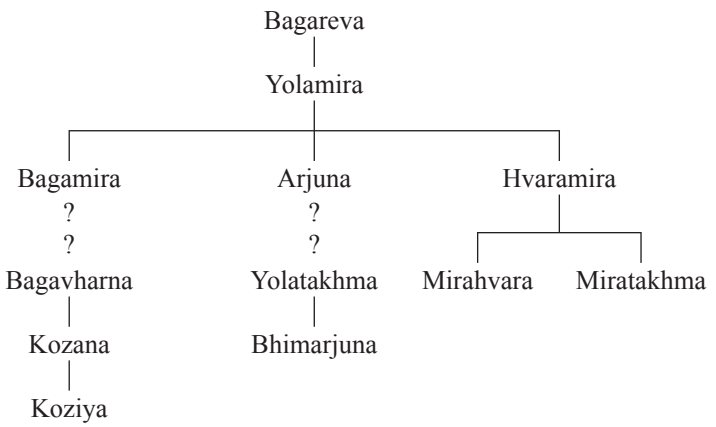


Figure 12: Extended Pāratarāja family tree: the 'Brāhmī' family combined with Lines A and B of the Kharoṣṭhī series[17]

The second speculative leap concerns Falk's Line B, which consists of:

Bagavharna → Kozana → Koziya.

Once again, we do not have information on who was Bagavharna's father. Might it have been Bagamira? We have less evidence here than we had for Line A, but the name Bagavharna does share the root name Baga with the purported father's name Bagamira.[18] Further, if we accept this theory, Kozana would belong to the same generation as Bhimarjuna, and would probably be the older cousin, as he was the

[16] Since Arjuna was Hvaramira's older brother, it is likely that Yolatakhma was older than Miratakhma. Thus Arjuna might have taken the root Yola from his father's name and combined it with Takhma to yield Yolatakhma as his son's name. A few years later, the younger brother Hvaramira takes the root name Mira from his father's name and combines it with Takhma to yield Miratakhma for *his* son's name.

[17] Notes to Table: Links marked by solid lines indicate that the descent is corroborated by the coins. Links marked by ?? indicate speculation.

[18] It is tempting to think that the root names Vharna and Hvara may also be related, but this is not the case etymologically. My thanks go to Nicholas Sims-Williams for clarifying this point. Nevertheless, the similarity in the sounds of the two root names might have been suggestive to the family members naming the new sons in the family. Note that, according to the family tree I have proposed, Bagavharna would have been the first boy born in the family after Hvaramira, so any similarity in their names would be of interest.

son of the older brother. Thus Kozana would be the oldest scion of Yolamira in his generation, and would be the logical heir of Miratakhma in a family where cousins are treated as brothers.

Note that these speculative leaps about the family relationships are not necessary for a basic relative chronology that gives the order of succession as:

Miratakhma → Kozana → Bhimarjuna → Koziya.

However, if these familial ties are accepted, we can better account for an orderly succession that does not go automatically from father to son. If the Pārata royal family functioned in the way that a more modern Hindu joint family does, cousins would be treated as brothers and nephews as sons. In that case, succession to younger brothers, cousins, or to the sons of cousins might have been quite normal. I will consider this point in greater detail below.

6. Line C of the Kharoṣṭhī Series

Let us turn now to Line C of the Kharoṣṭhī series. Falk identified two coin-issuing kings of this series. The first was Datavharna, son of Datayola. Although the root Data is new, the roots Vharna and Yola are familiar to us from other names on the coinage, suggesting that these kings may also have belonged to the same Pārata royal family. The second king could not be identified fully, as the best that Falk could do on the basis of the coins he had available was to identify a king named …yola, son of Datavharna. In other words, the second king was the son of the first, and Falk could read only the (presumably) second part of his name, *yola*.

Figure 13 shows the reverses of three coins from my collection and one from that of P. Anne van't Haaff which may help us resolve the name of this third king of line C. The legend on the first coin, starting at 12:30 and proceeding counter-clockwise, seems to read:

Datayolasa Datavharna…

Although we do not see the qualifying phrase *putrasa* on this coin, we can safely assume that it followed the name Datavharna, as the patronymic always follows the king's name on these coins. We therefore know that this coin is an issue of the son of Datavharna. His name appears to be Datayola, thus indicating he was named after his grandfather. Although this would be the first instance in this family of a grandson being named for his grandfather, the practice was certainly quite common in ancient times. And it is consistent with the pattern of names based on roots from names in earlier generations.

The second coin appears to confirm this reading. Starting at 1:30, I believe we can read:

Datayolasa Datavharnaputrasa ...

The third coin is less clear, but I believe we have (starting at 2 o'clock):

Datayo(lasa) Data ...

(a) coin # 151.11 (b) coin # 580.5

(c) coin # 151.09 (d) van't Haaff coin

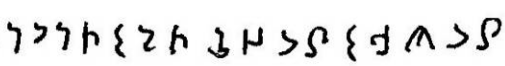
Figure 13: Four reverses of coins of the son of Datavharna

Although we do not have the full name of the father on this coin, I believe it is an issue of the son of Datavharna, as it has the standing king left on the obverse and the swastika turning left on the reverse. I have obvserved that all coins of the son of Datavharna have the standing king left on the obverse and the swastika turning left on the reverse, as opposed to the coins of Koziya (all with standing king right on the obverse and swastika turning right on the reverse) and Datavharna (all with standing king left on the obverse and swastika turning right on the reverse).

Finally, the fourth coin, generously shared with me by Anne van't Haaff, appears to further corroborate the reading. Starting at 2 o'clock, we have:

Datayolasa Datavharna(putrasa Paratara)jasa.

This coin is the clearest of the four and, because it shows the *jasa* at the 'end' of the legend, strongly suggests that there are no letters belonging to the name that come prior to the *Data* that we see on the other coins. A fifth coin, an overstrike, is presented below in Figure 16 and further supports the reading. The fully reconstructed legend would read:



Datayolasa Datavharnaputrasa Paratarajasa.

Although none of these coins yields a full legend, I believe there is enough evidence to warrant naming this king Datayola.[19] I will refer to him as Datayola II, to distinguish him from his grandfather, even though we have no evidence that Datayola I ever occupied the throne.

[19] Harry Falk, in a private communication, has endorsed this reading.

The next question to address is the relative chronology of these coins in relation to the coins of Lines A and B. Falk had argued that, on the basis of paleographic considerations, coins of line C must be later than coins of lines A and B, as they use later Kharoṣṭhī letter forms. At the same time, these coins display a standing king on the obverse that could arguably have been derived from the standing king type of Koziya. Although Koziya's standing king always faces right, as opposed to the left-facing kings of Datavharna and Datayola II, the forms of the kings are very similar. Figure 14 shows the obverses of a coin from each of the three kings. In each case, the king holds an object in front of him, while the opposite arm is bent at the elbow and held in front of the body at the waist. Each king wears a necklace and a tunic with a body-fitting top and an elegantly flared skirt. The legs are in straight trousers. The turbans worn by Datavharna (in Figure 14) and Datayola II (see Senior S51.2) resemble the turban worn by Koziya in some of his bust right coins (see coins 3.5-3.7 in Table 3 below). Further, the coins of line C have been found in hoards along with coins of Koziya. I therefore believe that these coins are not separated very much in time and may even immediately follow the coins of Koziya.

Koziya Datavharna Datayola II

Figure 14: Obverses of the standing king types of three kings

If the Datayola – Datavharna – Datayola II family is a direct descendant of the family of Yolamira, we have no particular hint as to which branch of the family they might belong. The root name Yola in Datayola could be related to Yolatakhma, the father of Bhimarjuna, and so they could be descended from this line. On the other hand, the root name Vharna in Datavharna shows some affinity with Bagavharna, the father of Kozana and grandfather of Koziya, and so a descent from that line cannot be ruled out. If I had to choose, I would place Datayola I as the son of Bhimarjuna. Since the root name Yola is repeated twice in this line, it has greater importance, and so a link to Yolatakhma seems plausible. Also, on this assumption, Datavharna, the first king in line C for whom we have coins, would be in the generation immediately following his uncle Koziya, his suspected immediate predecessor. Thus the succession from Koziya to Datavharna would be quite plausible.

It is worth emphasizing that this placing of line C in the family tree is highly speculative and very tentative.[20] It is also not that important for the history. There are other scenarios that could be consistent with the basic order as:

Koziya → Datavharna → Datayola II.

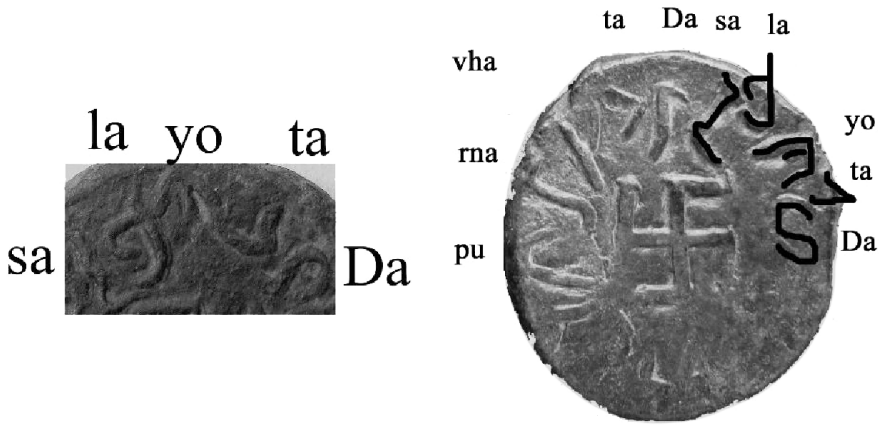
In the face of the similarities between the coins and the fact that coins of these three kings are found together, I believe that it is fair to take this as the succession pattern most consistent with the information we have.

Before proceeding further, I wish to take a look at another coin type that has so far escaped attribution. Senior reports a coin (S63.1) of approximately twice the weight of the standing king types (hence a tetradrachm) showing a diademed bust left with the king holding a three-petalled flower in front of his face, a swastika turning right on the reverse and a legend around that Senior thought might be in Brāhmī but did not read. Senior has generously shared with me his photographs of two specimens of this type, one of which is reproduced below as Figure 15. I believe that, thanks to the attribution of the previous standing king type to Datayola II, we can also attribute this copper tetradrachm to Datayola II.

Figure 15: Senior S63.1

The letter forms on this coin are very unusual, there is flatness over part of the reverse, and parts of some of the visible letters are off the flan, making a reading very difficult. However, coin (d) from Figure 13 helps us in this regard, because it gives us a clear reading of the same unusual letter forms. In Figure 16, I show a detail from that coin, showing the word *Datayolasa*, and then I reconstruct the relevant part of the legend on the coin in Figure 15. The key is the unusual form for the letter *la*. We see in the first detail that the letter is drawn with a loop to the left and up at the bottom of the vertical stroke. We see the same form in the relevant place in the legend of the second coin. I am fairly convinced that this reading is correct and that the coin can be assigned to Datayola II.

[20] Datayola I may not be related to anyone in Yolamira's family. Even if he is, he could belong to a later generation than the one I have suggested.



Detail from Figure 13 (d) Detail from Figure 15

Figure 16: Details for the reading of the name Datayola

7. A Relative Chronology of the entire Pāratarāja dynasty

In this section, I offer a relative chronology of the entire Pāratarāja dynasty, combining the Brāhmī series with all three lines of the Kharoṣṭhī series. This chronology is summarized in Figure 17, a fully extended family tree incorporating line C.

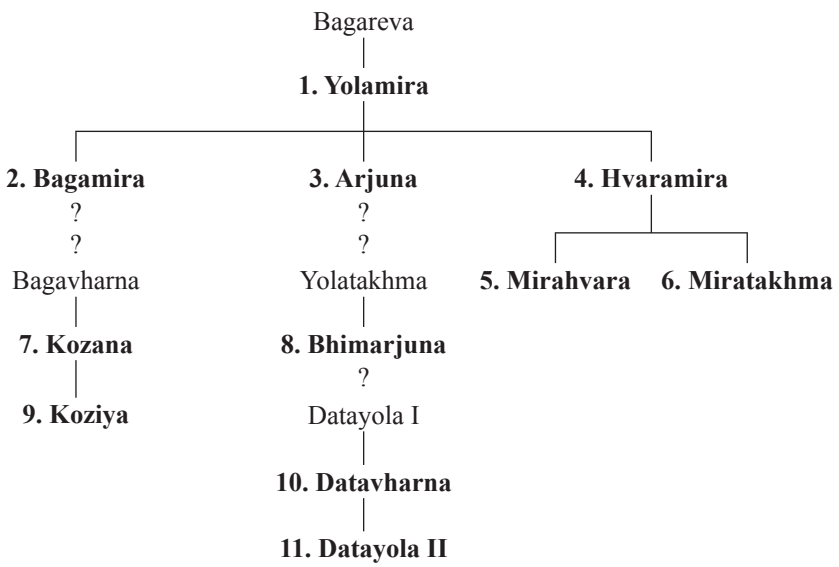


Figure 17: Fully extended Pāratarāja family tree[21]

[21] *Notes to Figure 17*. Individuals known to have issued coins are in bold. Numbers indicate order of rule. Links marked by solid lines indicate that the descent is definitively corroborated by the coins. Links marked by ?? indicate speculation.

The evidence supporting this relative chronology can be summarized as follows:

0. Bagareva, the *pater familias*, begins the dynasty but no coins of his are known.
1. Yolamira, the son of Bagareva, issues silver coins in several denominations and names his father on his coins.
2. Bagamira, the oldest son of Yolamira, succeeds his father (his coin is die-linked to coins of his father) but his reign is very short, as evidenced by the paucity of his coins and the fact that his successor uses the same coin die that he had inherited from his father.
3. Arjuna, middle son of Yolamira, succeeds his older brother. He issues coins that are die-linked to Yolamira and Bagamira.
4. Hvaramira, youngest son of Yolamira, succeeds his brother. He has coins die-linked to those of Arjuna, but none linked to Yolamira or Bagamira, thus confirming his later date.
5. Mirahvara, elder son of Hvaramira, succeeds his father. He has drachms die-linked to those of his father, and hemidrachms that are die-linked to coins of Arjuna and Yolamira. However, since we know he is Hvaramira's son, the chronology is not compromised by placing him here: he could hardly have ascended the throne before his father did!
6. Miratakhma, younger son of Hvaramira, succeeds his brother. He issues coins die-linked to late coins of Mirahvara but not to any other ruler, which conclusively places him after Mirahvara. Miratakhma is the last king in the Brāhmī series. All Pāratarāja coins so far are of silver; no copper coins are known for any of the rulers in the Brāhmī series.
7. Kozana, the grandson of Bagamira (?) and oldest scion of Yolamira in his generation, whose father Bagavharna probably never ruled (to judge from the fact that we have no coins in his name),[22] succeeds his 'uncle' Miratakhma.[23] He issues rare, perhaps special-issue, didrachms that are die-linked to similar rare coins of Hvaramira and Mirahvara. If these coins form special issues, the dies may have been quite long-lived. In addition, Kozana issues coins that have two features shared only with certain coins of Miratakhma: the bust of king faces left (rather than right as on all other Brāhmī issues) and the king wears a peaked tiara (rather than being bare-headed). Thus Kozana must have followed Miratakhma. Further, Kozana is the only king from the Kharoṣṭhī series to issue no copper coins - his coins are all in silver, like the coins of the Brāhmī series. He also issues one rare coin with a Brāhmī legend.
8. Bhimarjuna, grandson of Arjuna, whose father Yolatakhma probably never ruled (to judge from the absence of any coins in his name),[24] succeeds

[22] If Bagavharna ruled, he must have had a very short reign, similar to that of Bagamira.

[23] Under my proposed family tree, Miratakhma was Kozana's father's first cousin. In the west, he would be called Kozana's cousin, but in India a father's cousin would be considered an uncle. I use the Indian designation in order to emphasize the generational difference.

[24] Like Bagavharna, Yolatakhma could conceivably have had a short reign with a brief issue of coins.

his cousin. Bhimarjuna is the last king to issue coins with a significant silver content, although none of his coins are of very good silver, and his coins have the left-facing, peaked-tiara type busts that characterize some Miratakhma and Kozana coins. All his legends are in Kharoṣṭhī and it appears that his late-reign coins are all in copper.

9. Koziya, son of Kozana, succeeds his 'uncle' Bhimarjuna. His coins all carry Kharoṣṭhī legends and are of copper only (no billon). His coinage is quite copious, indicating a relatively long reign, perhaps the longest of all the Pāratarāja kings. As a consequence, he issues several different types, including the first coins featuring a standing king.
10. Datavharna (there is no evidence that his father Datayola I ever ruled), who may have been the grandson of Bhimarjuna, succeeds Koziya. He issues coins following the standing king type of his predecessor, although he turns the king to face left (Koziya's king always faces right).
11. Datayola II, son of Datavharna, succeeds his father. He also continues the standing king type, but he turns the swastika on the reverse left in contrast to his father's right-turning swastika.
12. After Datayola II, the picture is somewhat murky. There are certain rare copper coins (Senior type S64) that may have come after those of Datayola II. These coins are as yet unread. They carry a Brāhmī legend, indicating perhaps a transition back from Kharoṣṭhī to Brāhmī at the end of the Pāratarājas series. I argue later that these coins in fact were issued more than a century after the reign of Datayola II.

Although this chronology does involve some speculative leaps, it has a strong internal logic and is consistent with the numismatic, paleographic, and etymological evidence.

In his paper, Falk mentions two other possible kings in passing: Patakatakhma (?) on p. 172 and 'possibly' Bagadata on p. 177. As he does not provide photographs or any other details and I have not seen photographs of these coins, I have left these potential members of the tree out of the analysis. Should subsequent information confirm one or both of them, they would need to be accommodated into the chronology.

8. An Absolute Chronology and Overstrike Evidence

In my earlier paper (pp. 203-208), I considered a wide range of evidence in order to fix a date for the Brāhmī series of Pāratarāja coins. As a result of that analysis, I came to the tentative conclusion that Yolamira, the first Pāratarāja for whom we have coins, may have commenced his rule c. 150 AD, give or take a quarter century or so. In light of this estimate, and the relative chronology I have proposed for the whole series in the previous section, it is possible to propose a tentative absolute chronology for this dynasty. My method is to fix a period of time to represent an average generation and then to fit all known kings in any generation into those periods. For example, if I assume that an average generation lasts 25 years, I would need to fit the reigns of all three of Yolamira's sons (Bagamira, Arjuna, and Hvaramira) into a 25-year

period. For any given generation, this may well be somewhat inaccurate, but over many generations the over- and under-estimates would tend to average out. In our example, if we exclude Bagareva from our generational list, since we have none of his coins, there are, speculatively, seven generations, and so the average-generation approach should give reasonably reliable results.

What is the appropriate length of a generation in 2nd century India? I was unable to find any relevant literature, so I gathered information on various dynasties in which familial succession took place over a period of time. Details are given in the Appendix. My conclusion was that a reasonable estimate for a generation of the Pāratarājas was 25 years. In Table 2, I present the two absolute chronologies that result from two alternative starting dates for the dynasty, 125 and 150 AD. Within each generation, I have assigned reign lengths somewhat arbitrarily, basing myself loosely on the number of coins and coin types known for each king. Of course, any individual generation could have lasted fewer or more years than 25, but the overall span of 175 years for 7 generations is unlikely to be inaccurate by more than 10 years or so. Thus, with a start date of 125, the dynasty's history would cover the period 125-300, and, with a start date of 150, the years 150-325.

King	Generation No.	Dates based on a start date of 125	Dates based on a start date of 150
Yolamira	1	c. 125-150	c. 150-175
Bagamira	2	c. 150-155	c. 175-180
Arjuna	2	c. 155-165	c. 180-190
Hvaramira	2	c. 165-175	c. 190-200
Mirahvara	3	c. 175-185	c. 200-210
Miratakhma	3	c. 185-200	c. 210-225
Kozana	4	c. 200-215	c. 225-240
Bhimarjuna	4	c. 215-225	c. 240-250
Koziya	5	c. 225-250	c. 250-275
Datavharna	6	c. 250-275	c. 275-300
Datayola II	7	c. 275-300	c. 300-325

Table 2: Two Alternative Scenarios for an Absolute Chronology

Apart from the wide range of evidence concerning the start date for this absolute chronology that I considered in my earlier paper, we now have a powerful piece of evidence on the terminal date for this series, two coins of Datayola II overstruck on Kushano-Sasanian large-format copper coins of Hormizd I illustrated in Figure 18.[25] On the first coin, we see clearly, starting at about 1 o'clock, the legend *Datavharnaputrasa*, identifying the coin almost certainly as an issue of Datayola II, but in any case as that of a son of Datavharna and therefore belonging to that

[25] The photograph of the first coin is published courtesy of Indus Numismatic Gallery and that of the second by kind permission of Hans Loeschner, who is publishing it in Hans Loeschner, 'The Glory of Kanishka the Great in context with the Historical Buddha and Kushana Chronology', in Vidula Jayaswal (ed.), *Proceedings of the International Seminar on Kushana Glory & Its Contemporary Challenges, Bharat Kala Bhavan, Banaras Hindu University, Varanasi, October 3-5, 2008*. New Delhi, Aryan Books International, forthcoming.

generation. The undertype is also clearly identifiable. On the reverse, we see the large fire altar characteristic of the heavy- weight Kushano-Sasanian copper coins, and on the obverse we see clearly the bust right with pointed beard and eagle crown.[26] The second coin shows the left-standing king of the overtype on top of the undertype's fire altar reverse, and the overtype's reverse with its legend and left-turning swastika on top of Hormizd's bust facing approximately towards 5 o'clock. The visible parts of the reverse legend are consistent with the expected reading (starting at 1 o'clock):

Datayolasa Datavharna(putrasa Paratara)jasa.

Thus these specimens are almost certainly coins of Datayola II overstruck on coins of Hormizd I and prove that Datayola II could not have ruled any earlier than Hormizd I; he would probably have been a contemporary or have ruled slightly later than Hormizd. As Cribb dates Hormizd I to c. 270-290, the absolute chronology proposed in the first column of Table 2 fit almost perfectly, for Datayola II is there assigned to c. 275-300. The dates for Yolamira, at the start of the dynasty, would then be c. 125-150, making him a contemporary of Kanishka I.

Figure 18: Two coins of Datayola II overstruck on coins of Hormizd I

9. A Catalogue of the Pāratarāja Coins with Kharoṣṭhī legends

In my earlier paper, I presented a catalogue of the Pāratarāja coins with Brāhmī legends (Table 6, pp. 196-201). That catalogue now needs modification in that the ruler 'Kayyana' should be removed (he has turned out to be Kozana), Bagamira needs to be added after Yolamira and before Arjuna, and the Sanskrit legend type of Miratakhma could be added to the list of Miratakhma types.

[26] The undertype corresponds to Cribb types 34-35 in Joe Cribb, 'Numismatic Evidence for Kushano-Sasanian Chronology', *Studia Iranica*, Tome 19, 1990, fasc 2, plate IV.

In this section, I present a companion to that earlier catalogue to cover the coins of the kings who issued coins carrying legends in Kharoṣṭhī. This catalogue is a continuation of the earlier one. The purpose here is not to be exhaustive or to do a die study, but to present all the main types with the newly read names and legends, in the chronological order I have proposed here. Thus the catalogue is an update of Senior's *Supplement* (n. 11 above). The catalogue is presented in Table 3 and provides visual confirmation for the coin sequence I have suggested. In the table, I have attempted to point out the incremental changes in design from one coin type to the next by highlighting the changes in bold type.

We begin with Kozana's one known Brāhmī legend coin (type 1.1), which follows the Brāhmī coins of Yolamira to Miratakhma. This is followed by the silver drachm which is on the same weight standard (approximately 3.5 gm) as the previous Brāhmī legend coins, but is the first coin in the Pāratarāja series to carry the legend in Kharoṣṭhī (type 1.2). I follow this with the problematic coin I discussed in section 2 above, believing that it does not represent an issue of a different king. This coin (1.3) shares the same obverse die as coin 1.2, and I believe that the letter forms of the 'Kharoṣṭhī' legend on the reverse reflect an untutored hand and represent a blundered legend.

At this point, as Senior has noted, it appears that Kozana undertook a monetary reform and reduced the weight standard. Three coin denominations were issued at this standard, a didrachm (type 1.4), a drachm (1.5) and a hemidrachm (1.6). The didrachm used the same obverse die as the didrachms of Hvaramira and Mirahvara. The drachm introduced a couple of innovations: the bust faces left for the first time in the Pāratarāja series and the hair is arranged in a tapered set of locks reaching behind the neck. It is not clear whether the king is bare-headed or wearing a tiara on this coin, although Senior identifies the type as featuring a peaked tiara. On the hemidrachm the bust faces left and certainly wears a tiara with a central peak. This centrally-peaked tiara reflects the crowned type of Miratakhma, which also features a similar peaked tiara, the only crowned type among all the *Brāhmī* legend coins. Note that Kozana, like his predecessors, did not issue any copper coins.

Kozana was followed by Bhimarjuna, who issued only drachms. None of his coins are of very good silver, but there are coins of high-silver billon, more normal billon and copper. Presumably, the coins with highest silver content are the earliest, most similar to Kozana's coins. Perhaps the kingdom had started to decline financially and the silver content of the coinage was steadily reduced to end up as copper. As noted by Senior, the copper coins tend to weigh less than the billon coins. The style of Bhimarjuna's coins is very similar to that of coins of Kozana. The bust faces left, wears a peaked tiara, and the hair is arranged in tapered fashion reaching behind the neck. The bust is proportionately small. For all these reasons, I believe Bhimarjuna's coins succeed Kozana's and precede Koziya's.

Koziya succeeded Bhimarjuna even though he was Kozana's son. He appears to have been the longest-ruling Pāratarāja, given the many different obverse types he issued and the relatively large number of extant coins, the most common of the entire series. The coins are arranged in a sequence that appears to me logical, with each

successive type featuring one or two small changes from the previous type. Thus we start with type 3.1, which is quite similar to the coins of Bhimarjuna, in that it features a bust left wearing a centrally peaked tiara and with hair arranged in tapered locks reaching behind the neck. Koziya's bust, however, is proportionately larger than that of Bhimarjuna. I wondered if Koziya might have used Bhimarjuna's dies for his earliest issue, but have never found an obverse die link between them.[27]

The next issue, type 3.2, is quite unusual and almost does not fit in the sequence. The eye is totally different, being of a lozenge-shaped 'Indian' style. Further, although the left-facing bust wears a tiara, there appears to be an ear flap as on a helmet; perhaps it represents a hair-curl. These features make this type quite unique and somewhat disconnected from the other Koziya types.

The following type, 3.3, is a logical development of type 3.1. Once again, we have the left-facing bust with peaked tiara, but now the hair, instead of being tapered, is flared out and arranged in rows. This type is also characterized by chubby cheeks. The following type, not recognized by Senior, is very similar to 3.3 except that the cheek is not as chubby and the face looks older and sports a mustache. All previous types had shown a clean-shaven king, and all subsequent drachm types feature a mustache on the king's face.

Type 3.5 turns the king's bust to the right and introduces a new treatment of the hair or head covering. It is not entirely clear whether the hair is arranged in two sets of curls or whether the bust is wearing a turban. For convenience, I will refer to this as the turban type. The next type is also a turban type but differs in two respects: there is an object before the face (Senior identified it as an axe-head) and the reverse swastika turns left. This is the first instance of a left-turning swastika in the Kharoṣṭhī series. In this respect the Kharoṣṭhī series is far more organized than the Brāhmī series, where it seems that the swastika could turn left or right more or less at random. Finally, type 3.7 has the swastika right again, the obverse bust wears the turban, but there is an ear flap or a hair curl as in type 3.2 instead of a dangling ear-ring as on type 3.5.

Koziya's last type is entirely innovative: a double-weight coin showing a standing king. The king stands to front with head turned right. He has what appears to be a sceptre in his right hand, held out to the right in front of the body. The reverse swastika turns to the right and is surrounded by the conventional legend. The coin has another surprise on the obverse: there is a Brāhmī legend in the left field arranged on its side reading downward. It was this coin that served as the 'Rosetta stone' for Harry Falk finally to decipher the Kharoṣṭhī legend correctly. The Brāhmī legend reads *Koysiya*. The first letter in the Kharoṣṭhī legend had hitherto been read as *Spa*, but this coin showed conclusively that the letter was in fact meant to be *Ko*, which looks very similar to *Spa* in Kharoṣṭhī. Falk then cited earlier proposals that the compound letter *ysa* was intended to represent the foreign sound *za* or a close

[27] Indeed, I have looked for obverse die matches between each pair of kings, hoping to establish a sequence in the same way as was possible for the Brāhmī series. I have not yet found any such match.

variant thereof. The argument is explained in full in his paper, but readers might not realize from there that it was this coin type that played the major role in unlocking the puzzle[28].

The standing king type was continued by Koziya's successor Datavharna, the main difference being that Datavharna's king turns to the left. In addition, the king wears a turban or has a rounded arrangement of the hair, similar to Koziya's types 3.5-3.7. Otherwise the dress and attitude of the king is very similar to Koziya's. Datavharna's son Datayola II followed and also continued the standing king left type. His innovation was to change the orientation of the reverse swastika to the left. In addition, Datayola II introduced a tetradrachm featuring a bust left on the obverse where the king appears to be holding a three-petalled flower in front of his face.

This arrangement of rulers and coin types seems to follow a logical stylistic development. In combination with the arguments made earlier, it seems a plausible and attractive way to arrange these coins.

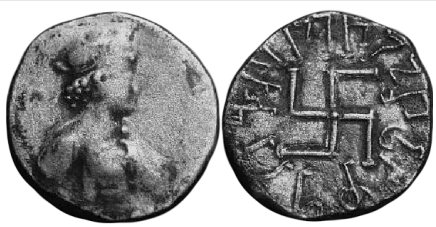
At the end of the catalogue is one last type that nobody has yet been able to identify properly, Senior S64.1-2. Very few specimens of this type exist and none has yielded a legible legend, which appears to be in Brāhmī. There are however some suggestive details on the coin, particularly in the head-dress. This is a crown with a crescent moon on the brow, perhaps with a solar disc in its centre. This crown suggests a date consdierably later than my proposed date for Datayola II. The crescent-on-brow crown first appears on the coins of the Sasanian emperor Yazdegard I, who reigned 399-420. It was then copied freely on the coins of the Kushano-Sasanians and the Hephthalites. Our coin is thus likely to be from the fifth century, more than 100 years after Datayola II. Indeed, the style of the coin is quite different from any coins of the Pāratarāja series and the word *Pārata* has not yet been conclusively read on it. Of course the presence of the swastika[29] suggests a connection to the Pāratarājas, but for now we cannot be sure that the type belongs to them. Mitchiner (*Ancient Trade* (n. 16 above), p. 619) assigned this type to c. 150/250, but on his example the crescent on the crown was off the flan; he thus did not have the principal clue I have used to assign this coin to the 5th century.

Finally, as mentioned above, Falk thought that he read the name *Bagadata* on one coin and *Patakatakhma* on another; as I have not seen photographs of these coins, they have not been included here.

[28] The reading of this letter ysa has important implications for certain Western Kshatrapa names; see my companion paper *'The Western Kshatrapa Dāmazāda'*, in this volume.

[29] And possibly the findspots of such coins, on which no conclusive evidence is available.

Table 3: Catalogue of the Pāratarāja coins with Kharoṣṭhī legends[30]

Type/Details and Legend	Photograph
1. Kozana, son of Bagavharna (c. 1st quarter 3rd century)	
1.1 Hemi- drachm 1.67 gm, 13 mm *Obv:* Diademed bust right in dotted border *Rev:* Swastika R, **Brāhmī** legend around: *Kozanasa (Bagavha)rnaputra* (no *sa*) *Pārata (rājasa* missing) Previous listing: Sen S57.1H	
1.2 Drachm 3.47 gm, 14-16 mm *Obv:* Diademed bust right in dotted border *Rev:* Swastika right, with **Kharoṣṭhī** legend around: *Kozanasa Bagavharnaputrasa Pāratarājasa* Previous listing: Sen S43.1D	
1.3 Drachm 3.00 gm, 15 mm *Obv:* Diademed bust right in dotted border *Rev:* Swastika right, with **blundered legend** around Previous listing: Sen S42.1D	
1.4 **Reduced** Didrachm 5.05 gm, 17 mm *Obv:* Diademed bust right in dotted border *Rev:* Swastika right, with legend around: *Kozanasa Bagavharnaputrasa Pāratarājasa* Previously unpublished	
1.5 Reduced Drachm 2.23 gm, 15 mm *Obv:* Diademed bust **left** in dotted border *Rev:* Swastika right, with legend around: *Kozanasa Bagavharnaputrasa Pāratarāja* (*sa* missing) Previous listing: Sen S44.1D	
1.6 Hemi- drachm 1.04 gm, 11 mm *Obv:* **Crowned** bust left in dotted border *Rev:* Swastika right, with legend around: *Kozanasa Bagavharnaputrasa Pāratarājasa* Previous listing: Sen S44.2H	

[30] Photographs of coins 1.1 and 1.3 were kindly provided by Bob Senior, and coin 2.1 is published courtesy of Indus Numismatic Gallery. All other coins are from my own collection.

2. Bhimarjuna, son of Yolatakhma (c. 2nd quarter 3rd century)	
2.1 'Silver' Drachm 1.9 gm *Obv:* Crowned bust left in dotted border *Rev:* Swastika right, with legend around: *Kozanasa Bagavharnaputrasa* *Pāratarājasa* Previous listing: Sen S50.1D	
2.2 **Billon** Drachm 2.09 gm, 15-16 mm *Obv:* Crowned bust left in dotted border *Rev:* Swastika right, with legend around: *Kozanasa Bagavharnaputrasa* *Pāratarājasa* Previous listing: Sen S50.1D	
2.3 **Copper** Drachm 1.56 gm, 14 mm *Obv:* Crowned bust left in dotted border *Rev:* Swastika right, with legend around: *Kozanasa Bagavharnaputrasa* *Pāratarājasa* Previous listing: Sen S50.1D	
3. Koziya, son of Kozana (c. 2nd-3rd quarters 3rd century)	
3.1 Copper Drachm 2.21 gm, 14-15 mm *Obv:* Crowned bust left in dotted border *Rev:* Swastika right, with legend around: *Koziyasa Kozanaputrasa* *Pāratarājasa* Previous listing: Sen 283.1D	
3.2 Copper drachm 1.55 gm 13 mm *Obv:* Crowned bust left **with ear flap** *Rev:* Swastika right, with legend around: *Koziyasa Kozanaputrasa* *Pāratarājasa* Previous listing: Sen S48.1D	
3.3 Copper drachm 1.76 gm, 13 mm *Obv:* Crowned bust left, **hair in rows** *Rev:* Swastika right, with legend around: *Koziyasa Kozanaputrasa* *Pāratarājasa* Previous listing: Sen S47.1D	
3.4 Copper drachm 1.54 gm, 12-13 mm *Obv:* Crowned bust L, **king w/mustache** *Rev:* Swastika right, with legend around: *Koziyasa Kozanaputrasa* *Pāratarāja* (no *sa*) Previously unpublished	

3.5 Copper Drachm 1.47 gm, 13-14 mm *Obv:* Bust **right**, **wearing turban** *Rev:* Swastika right, with legend around: *Koziyasa Kozanaputrasa* *Pāratarājasa* Previous listing: Sen S45.1D	
3.6 Copper Drachm 1.43 gm, 13-14 mm *Obv:* Bust R, **axe-head before** *Rev:* Swastika **left**, with legend around: *Koziyasa Kozanaputrasa* *Pāratarājasa* Previous listing: Sen S46.2D	
3.7 Copper Drachm 1.28 gm, 12-13 mm *Obv:* Bust R, wearing turban **w/ear flap** *Rev:* Swastika right, with legend around: *Koziyasa Kozanaputrasa* *Pāratarājasa* Previous listing: Sen S46.1D	
3.8 Copper Didrachm 3.87 gm, 21 mm *Obv:* **Standing king** R, inscrip L: *Koziya* *Rev:* Swastika right, with legend around: *Koziyasa Kozanaputrasa* *Pāratarājasa* Previous listing: Sen S49.1	
4. Datavharna, son of Datayola (c. 3rd quarter 3rd century)	
4.1 Copper didrachm 3.40 gm, 17 mm *Obv:* Standing king **left, hair in turban** *Rev:* Swastika right, with legend around: *Datavharnasa Datayolaputrasa* *Pāratarājasa* Previous listing: Sen S51.1	
5. Datayola II, son of Datavharna (c. 4th quarter 3rd century)	
5.1 Copper didrachm 4.66 gm, 17-18 mm *Obv:* Standing king left, hair in turban *Rev:* Swastika **left**, with legend around: *Datayolasa Datavharnaputrasa* *Pāratarājasa* Previous listing: Sen S51.2	

5.2 Copper 4-drachm 7.72 gm, 21 mm *Obv:* Diademed bust left, holding flower *Rev:* Swastika right, with legend around: *Datayolasa Datavharnaputrasa Pāratarājasa* Previous listing: Sen S63.1	
6. Unattributed type (c. 5th century)	
6.1 Copper didrachm 4.10 gm, 19-21 mm *Obv:* Bust right with **sun+moon crown** *Rev:* Swastika right, with unread **Brāhmī** legend around Previous listing: Sen S64.1-2	

10. Conclusion

In this paper, I have attempted to resolve most of the outstanding issues relating to the coins of the Pāratarājas. I have suggested a relative and absolute chronology of rulers and coin sequences that has allowed me to unite the Brāhmī and Kharoṣṭhī series into a coherent continuum. New evidence from overstrikes, combined with a lengthy analysis I offered in previous work, has given considerable support to the dating of this dynasty to the period c. 125-300 AD.

History is often the story of the great dynasties and their comings and goings. We normally know a lot about these dynasties, from physical and literary remains, while we normally know very little about some of the minor dynasties that carve out niches for themselves in the shadow of their mighty neighbours. The Pāratarājas are one such minor dynasty. Little has been known about them, other than their occasional mention in lists of tribes in the literature of the time. The evidence of their coins now sheds new light on this small kingdom that eked out a history perhaps two centuries long in the shadow of the great Persian empires to the west, the Kushan empire to the north, and the powerful Western Kshatrapa kingdom to the southwest. Their presence in the Baluchistan area demonstrates that none of those imperial powers exercised an absolute sway over that area during the second and third centuries. In particular, the lack of any visible Kushan influence on the coins shows that the Kushan empire did not extend as far south as the Pāratarājas.

Appendix. The Length of a Generation in Ancient Times

In this Appendix, I have gathered some information on various dynasties in ancient times in order to get a sense for the length of a generation. The length of a particular king's reign depends on many factors, including his health and the degree of violence

in the period, whether external or internal. Thus the length of a reign could vary greatly. The *average* length of reigns in a dynasty, however, will be more stable, but will still depend upon average overall health at the time and, more importantly, on the degree of violence. How often were kings killed in battle? How often are they assassinated by their brothers?

However, there should be less variability in the length of a generation, which is driven much more by demographic factors. If a particular king has a long reign because he lives in a peaceful time and enjoys good health, it is likely that his successor will have a short reign because he would ascend to the throne at an advanced age. If a king is assassinated by his brother or dies in battle mid-way through his normal reign, his brother who succeeds him will have only half a normal reign. The generation as a whole will be the unit that will enjoy a normal reign.

In estimating the total length of time that the Pāratarājas ruled, therefore, I decided to focus on the fact that they were divided into 7 generations, rather than 12 reigns. The problem was to determine how long we could expect 7 generations to rule. To answer this question, I looked at various dynasties for which we knew the family relationships and the dates of rule. They included the Ptolemaic dynasty in Egypt, the Arsacid dynasty in Parthia, the Kārdamaka (Western Kshatrapa) dynasty of western India, the Sasanian dynasty in Persia, and various dynasties of the Byzantine Empire. The Roman Empire was not a good candidate for study because of the lack of long periods of familial succession.

Table A1 summarizes the results, while Tables A2-A6 provide details of each dynasty. The tables are more or less self-explanatory. There was a slight problem in calculating the average length of the generations for the Sasanian dynasty, because two of the rulers have unclear relationships with their predecessors. In each case, the king is either his predecessor's son or brother. So the number of generations becomes unclear. It turns out to be 15 if both rulers were their predecessors' brothers, 17 if they were both sons and 16 if one was a son and the other was a brother. The average generation length is therefore presented as a range of 25 to 28.3 years, depending upon the different possible values for the number of generations.

The Byzantine Empire was ruled by many different dynasties and also by non-dynastic usurpers or the like. I looked at 11 dynasties that offered a reasonable set of rulers and calculated the average generation length for each one. I also calculated an aggregate average generation length for the entire series. This was done by adding up the number of years for each of the individual dynastic rules and dividing by an adjusted sum of the number of generations. Simply adding the number of generations in each of the individual dynasties would have yielded 47 generations over the 1,070 years of rule. However, I adjusted this by looking to see if the founding ruler of one dynasty might have belonged to the same generation as the last ruler of a previous dynasty. This turned out to be true in 4 cases:

1. Valentinian I, founder of the Valentinian dynasty, was born in 321, while Julian the Apostate, last ruler of the Constantinian dynasty, was born in 332. Thus Valentinian I was not regarded as belonging to a later generation.

2. Leo I, founder of the Leonid dynasty, was born in 401, while Marcian, the last ruler of the Valentinian dynasty, was born in 396. Again, these two individuals were deemed to belong to the same generation.
3. Basil I, the first king of the Macedonian dynasty, also clearly does not belong to a later generation than his predecessor, Michael III of the Phrygian dynasty. Basil was older than Michael, was his chamberlain and married his widow.
4. Finally, Michael VIII of the Palaiologan dynasty was the grand-nephew of John III of the Laskarid dynasty, who was the grandfather of John IV, the last Laskarid. Thus Michael VIII belonged to the same generation as John IV.

Making adjustments for these four cases reduces the number of generations among the 11 Byzantine dynasties to 43, and the average length of a generation over all these dynasties is 24.9 years.

In addition to the Sasanian and Byzantine dynasties, the tables show the calculations for the Ptolemaic dynasty in Egypt (average generation length 27.5 years over 10 generations), the first unbroken part of the Arsacid dynasty of Parthia (average generation length 28.3 years over 10 generations), and the part of the Kārdamaka (Western Kshatrapa) dynasty for which we have firm dates (average generation length 21 years over 6 generations). The average generation length over all the dynasties studied ranged from 25.3 to 25.9 years. This would suggest using an estimate of around 25.5 years per generation.

Finally, it is worth noting that the averages were calculated for quite long-lived dynasties. If we look in greater detail at the component dynasties of the Byzantine dynasty, we observe that shorter-lived dynasties generally have shorter average generation lengths. Figure A1 plots the average generation length for each individual dynasty against the number of generations in that dynasty. The figure shows that the average generation length rises with the number of generations. For my case of 7 generations, therefore, perhaps 25 years is a reasonable (and rounded) estimate for the average generation length.

After finishing these calculations, I found that a similar set of computations had been done by A.L. Basham for 22 medieval Hindu kingdoms, 13 from northern India (112 generations) and 9 from the south (82 generations).[31] These dynasties ruled at various times from the 6th to the 14th centuries. Basham found an average length of generation of 26 years for the north Indian dynasties and 28 years for the south Indian ones, results not far from the ones I presented. The calculations were refined somewhat by Thomas Trautmann who improved the data and reduced Basham's sample by 2 dynasties for which he felt the data were not reliable. Trautmann ended up with a total of 182 generations, and found an average generation length of 26.1 years for the north Indian dynasties and 28 years for the south Indian ones.[32] I feel therefore on fairly safe ground in using the number of 25 years. This may even be more appropriate for the earlier time period under consideration.

[31] A.L. Basham, 'The average length of the generation and the reign in ancient India', Chapter VIII in *Studies in Indian History and Culture*. Calcutta, Sambodhi Publications, 1964.

[32] Thomas R. Trautmann, 'Length of generation and reign in ancient India', *Journal of the American Oriental Society*, Vol. 89, No. 3 (Jul. - Sep., 1969), pp. 564- 577.

Table A1
The Average Length of Generations for Various Dynasties

Country	Dynasty	Period	#years	#generations	Years/Gen
Egypt	Ptolemaic	305-30 BC	275	10	27.5
Parthia	Arsacid	247 BC – 36 AD	283	10	28.3
India	W Kshatrapas	178-304	126	6	21
Persia	Sasanian	226-651	425	15-17[33]	25 – 28.3
Byzantine	Aggregate	306-1453 w/gaps	1070	43	24.9
of which	Constantinian	306-363	57	2	28.5
	Valentinian	364-457	93	4	23.3
	Leonid	457-518	61	3	20.3
	Justinian	518-602	84	4	21
	Heraclian	610-711	101	5	20.2
	Isaurian	717-802	85	4	21.3
	Phrygian	820-867	47	3	15.7
	Macedonian	867-1056	189	6	31.5
	Komnenid	1081-1185	104	4	26
	Laskarid	1204-1261	57	4	14.3
	Palaiologan	1261-1453	192	8	24
For all dynasties			2179	84-86	25.3 – 25.9

Table A2
The Ptolemaic Dynasty of Egypt
Years ruled = 275. Number of generations = 10. Years per generation = 27.5

Ruler	Relationship	Gen.#	Reign[34]	#years
Ptolemy I Soter	Founder	1	305-283	22
Ptolemy II Philadelphus	s/o Ptolemy I	2	283-246	37
Ptolemy III Euergetes	s/o Ptolemy II	3	246-221	23
Ptolemy IV Philopator	s/o Ptolemy III	4	221-204	16
Ptolemy V Epiphanes	s/o Ptolemy IV	5	204-180	23
Ptolemy VI Philometer	s/o Ptolemy V	6	180-145	35
Ptolemy VII Neos Philopator	s/o Ptolemy VI	7	145	0
Ptolemy VIII Euergetes II	b/o Ptolemy VII	7	145-116	29
Ptolemy IX Lathyros	s/o Ptolemy VIII	8	116-81	35
Ptolemy X Alexander I	s/o Ptolemy VIII	8	81	0
Berenice III Philopator	d/o Ptolemy IX	9	81-80	1
Ptolemy XI Alexander II	s/o Ptolemy X	9	80	0
Ptolemy XII Neos Dionysos	s/o Ptolemy IX	9	80-51	29
Ptolemy XIII Theos Philopator	s/o Ptolemy XII	10	51-47	
Cleopatra VII Philopator	d/o Ptolemy XII	10	51-30	21

Note. Some co-rulers have been left out of the table.

[33] See Table A5 for an explanation of the ambiguity here.
[34] All dates are BC.

Table A3
The Arsacid Dynasty of Parthia
Years ruled = 283. Number of generations = 10. Years per generation = 28.3

Ruler	Relationship	Gen#	Reign[35]	#years
Arsaces I	Founder	1	247-211	26
Arsaces II	s/o Arsaces I	2	211-191	20
Phriapatius	nephew/o Arsaces II	3	191-176	15
Phraates I	s/o Phriapatius	4	176-171	5
Mithradates I	b/o Phraates I	4	171-138	33
Phraates II	s/o Mithradates I	5	138-127	11
Artabanus I	s/o Phriapatius	4	127-124	3
Mithradates II	s/o Artabanus I	5	123-88	35
Sinatruces	b/o Phraates II	5	77-70	7
Phraates III	s/o Sinatruces	6	70-57	13
Orodes II	s/o Phraates III	7	57-38	19
Phraates IV	s/o Orodes II	8	38-2	36
Phraataces	s/o Phraates IV	9	2 BC–4 AD	6
Vonones I	s/o Phraates IV	9	8-12	4
Tiridates II	nephew/o Vonones I	10	35-36	1

Table A4
The Western Kshatrapas, Kārdamaka Dynasty
Years ruled = 126. Number of generations = 6. Years per generation = 21

Ruler	Relationship	Generation#	Reign	#years
Rudrasimha I	s/o Rudradāman[36]	1	100-119	19
Jīvadāman	s/o Dāmazāda I[37]	2	119-121	2
Satyadāman	s/o Dāmazāda	2	124	<1
Rudrasena I	s/o Rudrasimha	2	121-144	23
Prithvisena	s/o Rudrasena I	3	144	<1
Dāmasena	s/o Rudrasimha	2	144-158	14
Samghadāman	s/o Rudrasimha	2	149	<1
Dāmajādasrī II	s/o Rudrasena I	3	154-155	1
Viradāman	s/o Dāmasena	3	156-160	4
Yasodāman I	s/o Dāmasena	3	160-161	1
Vijayasena	s/o Dāmasena	3	160-172	8
Dāmajādasrī III	s/o Dāmasena	3	172-177	5
Rudrasena II	s/o Viradāman	4	177-200	23
Visvasimha	s/o Rudrasena II	5	199-202	3
Bhartrdāman	s/o Rudrasena II	5	200-217	17
Visvasena	s/o Bhartrdāman	6	214-226	12

[35] Early dates are BC, last dates are AD.

[36] Although we know the names of several of Rudrasimha's ancestors (father, Rudradaman; grandfather, Jayadaman; great-grandfather, Chastana; and great-great grandfather, Zamotika), we do not have firm dates for any of these rulers. On the name 'Zamotika' see the next footnote.

[37] Jivadaman's father is normally called Damajadasri. In a recent paper, I show that his father's name was actually Dāmazāda, and that Chastana's father, normally called Ghsamotika, was actually named Zamotika. See Pankaj Tandon, 'The Western Kshatrapa Dāmazāda', in this volume.

Table A5
The Sasanian Dynasty of Persia
Years ruled = 425. Number of generations = 15 - 17. Years per generation = 25 – 28.3

Ruler	Relationship	Generation#	Reign	#years
Ardashir I	Founder	1	226-241	15
Shapur I	s/o Ardashir I	2	241-272	31
Hormazd I	s/o Shapur I	3	272-273	1
Varhran I	s/o Shapur I	3	273-276	3
Varhran II	s/o Varhran I	4	276-293	17
Varhran III	s/o Varhran II	5	293	0
Narseh	s/o Shapur I	3	293-302	9
Hormazd II	s/o Narseh	4	302-309	7
Shapur II	s/o Hormazd II	5	309-379	70
Ardashir II	s/o or b/o Shapur II	5 or 6[38]	379-383	6
Shapur III	b/o Ardashir II	5 or 6	383-388	5
Varhran IV	s/o Shapur III	6 or 7	388-399	11
Yazdegard I	s/o or b/o Varhran IV	6, 7 or 8[39]	399-421	22
Varhran V	s/o Yazdegard I	7, 8 or 9	421-438	17
Yazdegard II	s/o Varhran V	8, 9 or 10	438-457	19
Hormazd III	s/o Yazdegard II	9, 10 or 11	457-459	2
Peroz I	s/o Yazdegard II	9, 10 or 11	457-484	24
Balash	s/o Yazdegard II	9, 10 or 11	484-488	4
Kavadh I	nephew/o Balash	10, 11 or 12	488-531	43
Khusru I	s/o Kavadh I	11, 12 or 13	531-579	48
Hormazd IV	s/o Khusru I	12, 13 or 14	579-590	11
Khusru II	s/o Hormazd IV	13, 14 or 15	590-628	38
Kavadh II	s/o Khusru II	14, 15 or 16	628	0
Ardashir IV	s/o Kavadh II	15, 16 or 17	628-630	2
Burandukht	d/o Khusru II	14, 15 or 16	630-631	1
Azarmidukht	d/o Khusru II	14, 15 or 16	631	0
Hormazd VI	not related		631-632	1
Yazdegard III	grandson/o Khusru II	15, 16 or 17	632-651	19

Table A6
The Dynasties of the Byzantine Empire
Years ruled = 1070. Number of generations = 43. Years per generation = 24.9

Ruler	Relationship	Gen#	Reign	#years
Constantinian Dynasty: 57 years, 2 generations, 28.5 years/generation				
Constantine I	Founder	1	306-337	31
Constantius II	s/o Constantine I	2	337-361	24
Julian	cousin/o Constantius II	2	361-363	2

[38] The exact relationship of Ardashir II to Shapur II is not known; he was either his son or his brother.
[39] The exact relationship of Yazdegard I to Varhran IV is also not known; he was either his son or his brother.

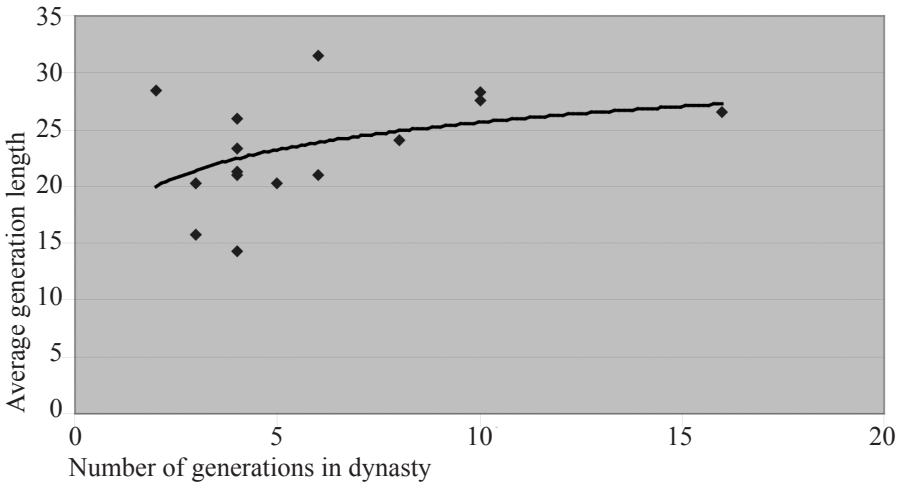
Valentinian Dynasty: 93 years, 4 generations, 23.3 years/generation				
Valentinian I	Founder	1	364-375	11
Valens	b/o Valentinian I	1	364-378	14
Gratian	s/o Valentinian I	2	378-379	1
Theodosius I	b-i-law/o Gratian	2	379-395	16
Arcadius	s/o Theododius I	3	395-408	13
Theodosius II	s/o Arcadius	4	408-450	42
Pulcheria	d/o Arcadius	4	450-453	3
Marcian	h/o Pulcheria	4	453-457	4
Leonid Dynasty: 61 years, 3 generations, 20.3 years/generation				
Leo I	Founder	1	457-474	17
Leo II	grandson /o Leo I	3	474	1
Zeno	s/o Leo I	2	474-475	1
Basiliscus	b-i-law o/Leo I	1	475-476	1
Zeno	s/o Leo I	2	476-491	15
Anastasius I	s-i-law o/Leo I	2	491-518	27
Justinian Dynasty: 84 years, 4 generations, 21 years/generation				
Justin I	Founder	1	518-527	9
Justinian I	nephew o/Justin I	2	527-565	38
Justin II	nephew o/Justin II	3	565-578	13
Tiberius II	adopted s/o Justin II	3[40]	578-582	4
Maurice	s-i-law o/Tiberius II	4	582-602	20
Heraclian Dynasty: 101 years, 5 generations, 20.2 years/generation				
Heracleios	Founder	1	610-641	31
Constantine III	s/o Heracleios	2	641	0
Constans II	s/o Constantine III	3	641-668	27
Constantine IV	s/o Constans II	4	668-685	17
Justinian II	s/o Constantine IV	5	685-711	26
Isaurian Dynasty: 85 years, 4 generations, 21.3 years/generation				
Leo III	Founder	1	717-741	24
Constantine V	s/o Leo III	2	741-775	34
Leo IV	s/o Constantine V	3	775-780	5
Constantine VI	s/o Leo IV	4	780-797	17
Irene of Athens	w/o Leo IV	3	797-802	5
Phrygian Dynasty: 47 years, 3 generations, 15.7 years/generation				
Michael II	Founder	1	820-829	9
Theophilus	s/o Michael II	2	829-842	13
Theodora	w/o Theophilus	2	842-855	13
Michael III	s/o Theophilus	3	842-867	25

Macedonian Dynasty: 189 years, 6 generations, 31.5 years/generation				
Basil I	Founder	1	867-886	19
Leo VI	s/o Basil I	2	886-912	26
Constantine VII	s/o Leo VI	3	908-959	51
Romanos II	s/o Constantine VII	4	959-963	4
Nikephoros II	h/o Romanos II's widow	4	963-969	6
John I	b-i-law o/Romanos II	4	969-976	7
Basil II	s/o Romanos II	5	976-1025	49
Constantine VIII	s/o Romanos II	5	1025-1028	3
Zoe	d/o Constantine VIII	6	1028-1050	22
Constantine IX	h/o Zoe	6	1042-1055	13
Theodora	d/o Constantine VIII	6	1055-1056	1
Komnenid Dynasty: 104 years, 4 generations, 26 years/generation				
Alexios I	Founder	1	1081-1118	37
John II	s/o Alexios I	2	1118-1143	25
Manuel I	s/o John II	3	1143-1180	37
Alexios II	s/o Manuel I	4	1180-1183	3
Andronikos I	Nephew o/John II	3	1183-1185	2
Laskarid Dynasty: 57 years, 4 generations, 14.3 years/generation				
Constantine Laskaris	Founder	1	1204-1205	1
Theodore I	b/o Constantine Laskaris	1	1205-1221	16
John III	s-i-law o/Theodore I	2	1221-1254	33
Theodore II	s/o John III	3	1254-1258	4
John IV	s/o Theodore II	4	1258-1261	3
Palaiologan Dynasty: 192 years, 8 generations, 24 years/generation				
Michael VIII	Founder	1	1261-1282	21
Andronikos II	s/o Michael VIII	2	1282-1328	46
Michael IX	s/o Andronikos II	3	1294-1320	26
Andronikos III	s/o Michael IX	4	1328-1341	13
John V	s/o Andronikos III	5	1341-1347	6
John VI	regent to John V	4	1347-1354	7
John V (restored)	s/o Andronikos III	5	1354-1376	22
Andronikos IV	s/o John V	6	1376-1379	3
John V (restored)	s/o Andronikos III	5	1379-1390	11
John VII	s/o Andronikos IV	7	1390	0
John V (restored)	s/o Andronikos III	5	1390-1391	1
Manuel II	s/o John V	6	1391-1425	34
Andronikos V	s/o John VII	8	1403-1407	4
John VIII	s/o Manuel II	7	1425-1448	23
Constantine XI	s/o Manuel II	7	1449-1453	4

Note. Some unrelated rivals or co-rulers have been left out of the table.

[40] Although Tiberius II was the adopted son of Justin II, they were in fact the same age as they were both born c. 520. I therefore felt it appropriate to place Tiberius II in the same generation as Justin II.

Figure A1
Relationship of generation length to number of generations



Note. The solid line is the logarithmic trend line offered by Excel.