§14. EARLY STEPS IN THE DECIPHERMENT. OP 
inscriptions and writing are mentioned in a num-
ber of ancient authors, from Herodotus onward,
and are remarked upon and described by certain 
modern travelers early in the seventeenth cen-
tury, who published parts of inscriptions from Per-
sepolis in the accounts of their travels. The first 
inscription to be published in complete form was 
DPa, given by Chardin in 1711. Better copies of 
several were given in 1778 by Carsten Niebuhr,
who recognized that the inscriptions were com-
posed in three systems of writing, and that the 
writing ran from left to right; the direction of 
the writing was shown by two copies of XPe 
with somewhat differing line-divisions. O. G. 
Tychsen in 1798 discovered that the three systems 
of writing represented three different languages,
and that a recurring diagonal wedge in the 
simplicity of the three types was a word-divider;
but he wrongly assigned the inscriptions to the 
Parthian period. Friedrich Münster in 1802 inde-
pendently identified the word-divider, and 
thought that a frequently recurring series of 
characters must be the word for ‘king’; he as-
signed the inscriptions to the Achaemenian pe-
riod.

§15. G. F. GROTEFEND of Frankfurt in 1802 ap-
plied himself to the problem of the decipherment,
and by a comparison of DPa and XPe (in Nie-
buhr’s copies) he made the first real progress. He 
assumed that the inscriptions were inscriptions of 
the Achaemenian kings, that they consisted es-
sentially of the names and titles of the kings, 
and that these in the simplest type of writing were in 
Persian, closely resembling the language of the 
Avesta. He was helped by Silvestre de Sacy’s 
recent decipherment of the royal titles in Pahlavi,
‘... great king, king of kings, king of Iran and 
non-Iran, son of ... , great king,’ etc., which 
guided him as to what to expect. To facilitate the 
expansion, we set the two inscriptions in parallel 
columns:

<table>
<thead>
<tr>
<th>DPa</th>
<th>XPe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dārayavāsh</td>
<td>Xšayāša</td>
</tr>
<tr>
<td>xšāyābiya :</td>
<td>xšāyābiya :</td>
</tr>
<tr>
<td>vazraka :</td>
<td>vazraka :</td>
</tr>
</tbody>
</table>

Grotefend recognized correctly that the names 
of two different kings were followed by titles, 
‘great king, king of kings’, and then a third simi-
lar title in the one which was lacking in the 
other; that then followed the name of the king’s 
father, who was the same person in one inscrip-
tion as the king in the other, and that in the 
other the father did not bear the title king. He 
declared upon Darius, whose father Hystaspes 
had not been king, rather than upon Cyrus, since 
Cyrus and his father Cambyses had names begin-
ning with the same letter1 whereas the cor-
responding two names in the inscriptions began 
with different characters; he thought the name of 
Artaxerxes to be too long. Thus he saw in the 
three names Hystaspes, Darius, Xerxes, in the 
transliteration of which he used the later Iranian 
pronunciations:

---

Thus he had identified, for all but the inherent 
a, the characters a, u, χ (his kh), t, d, p, r, s, š 
(his sch), and elsewhere he identified f. But his 
reliance on the later pronunciations misled him 
sorely, and of the 22 different signs in DPa and 
XPe he got only 10 correctly, and even for two of 
these he admitted two values each (a and e, p 
and b). Apart from the three names, ‘king’ and 
‘great’ were the only words which he identified 
correctly; later (1815) he identified the name 
‘Cyrus’ in CMa. But the remainder of his read-

---

1 As it happens, Cyrus and Cambyses do not begin 
with the same letter in OP, but with kā and kē respec-
tively; but Grotefend could have dismissed the Cyrus 
line on the ground that Cyrus’s father and Cyrus’s 
son were both named Cambyses, but the first and the 
third of the dynasty in these inscriptions bore different 
names.
The Gold Tablet of Hamadan

The Limits of the Empire of Darius the Great

showing the three systems of writing of the three versions

Old Persian (top), Elamite (middle), Akkadian (bottom)

Reproduced by courtesy of the Oriental Institute of the University of Chicago
ings, even in these inscriptions, is sorry stuff, and he could never realize in later years that the foundations which he had laid had been built upon and improved.

§16. The Completon of the Decipherment. After a gap of twenty-one years other scholars took up the task, but progress was mainly in identifying individual characters and single words. The notable steps in the decipherment were the following: Lassen in 1836 supplied the vowel a after many consonants; that is, he realized that these consonants had an inherent a. Lassen in 1839 noted that some characters were used only before i and others only before u; Rawlinson in 1846, Hincks in 1846, and Oppert in 1847 independently realized that these consonants had inherent i and inherent u. Oppert at the same time discovered that diphthongs were indicated by i or u after a consonant with inherent a, and that n and m were omitted before consonants.

§17. Summary of the Decipherment. The detail of the decipherment can best be portrayed in tabular form. For simplicity in composition, I use c and j rather than ċ and j, and as a better representation of the sound I use ĉ rather than č.

The scholars who participated in the decipherment are indicated by the following abbreviations; the dates of their publications are also given:

<table>
<thead>
<tr>
<th>Num-</th>
<th>Present</th>
<th>Number</th>
<th>Orthog.</th>
<th>Present</th>
<th>Progress of Decipherment</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>ā</td>
<td>z J 38, j Hl 45</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>āi</td>
<td>g L 36, āi Ri 46</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>ū</td>
<td>G 02</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>ūi</td>
<td>t L 36, ūi L 39, ūtu W 45, Rl 46</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>ūn</td>
<td>L 36, th J 38, ū L 39</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>ūn</td>
<td>t L 36, thr L 45, ūri Rl 46</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>ūn</td>
<td>G 02</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>ūn</td>
<td>Hl 45, di Rl-H 46</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>ūn</td>
<td>L 36, du Rl-H 46</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>&quot;n</td>
<td>Rk 23</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>&quot;n</td>
<td>nu Rl 46</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>&quot;p</td>
<td>G 02</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>&quot;f</td>
<td>G 02</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>b</td>
<td>bf–L 36</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>&quot;m</td>
<td>M 23</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>&quot;m</td>
<td>L 36, &quot;m L 39, m Rl-H 46</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>&quot;m</td>
<td>mu Rl 46</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>y</td>
<td>y B-J 38</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>&quot;r</td>
<td>G 02</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>&quot;r</td>
<td>G 15, &quot;r J 38, ru Rl 46</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>&quot;l</td>
<td>Op 51</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>ve</td>
<td>L 36, ve Rl-H 46</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td>&quot;v</td>
<td>SM 23, &quot;v Rl-H 46</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>s</td>
<td>G 02</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>&quot;s</td>
<td>Sch 42</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>&quot;z</td>
<td>BF–L 36</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>&quot;h</td>
<td>b B-J 38</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Ideograms and Ligature

<table>
<thead>
<tr>
<th>Num-</th>
<th>Present</th>
<th>Progress of Decipherment</th>
</tr>
</thead>
<tbody>
<tr>
<td>37</td>
<td>XŚ &quot;König&quot; M–G 02</td>
<td></td>
</tr>
<tr>
<td>38</td>
<td>DH &quot;Land&quot; L 45</td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>BU &quot;Erde&quot; L 45</td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>AM &quot;Aahamazūdā&quot; Op 74, E 90</td>
<td></td>
</tr>
<tr>
<td>41</td>
<td>BG &quot;baqa 'god'&quot; Sc 1929</td>
<td></td>
</tr>
<tr>
<td>42</td>
<td>AMha &quot;Aramazaday ḫa&quot; Br 1932 (cf. Hz 1931)</td>
<td></td>
</tr>
</tbody>
</table>

Word-divider

43 : Ty 1798

§18. The Old-Persian Syllabary. The inscriptions composed in the Old Persian language are inscribed on various hard materials in a syllabary, each character having the value of a vowel or of a consonant plus a vowel. To the 36 characters of this nature must be added 5 ideograms (§42), one ligature of ideogram and case ending (§42), the word-divider (§44), and numerical symbols (§43).
OLD PERSIAN

SYLLABARY

<table>
<thead>
<tr>
<th>Syllable</th>
<th>Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>$a$</td>
</tr>
<tr>
<td>i</td>
<td>$i$</td>
</tr>
<tr>
<td>u</td>
<td>$u$</td>
</tr>
<tr>
<td>k</td>
<td>$k$</td>
</tr>
<tr>
<td>l</td>
<td>$l$</td>
</tr>
<tr>
<td>g</td>
<td>$g$</td>
</tr>
<tr>
<td>d</td>
<td>$d$</td>
</tr>
<tr>
<td>c</td>
<td>$c$</td>
</tr>
</tbody>
</table>

IDEOGRAMS

<table>
<thead>
<tr>
<th>Syllable</th>
<th>Symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xš</td>
<td>$xš$</td>
</tr>
<tr>
<td>DH</td>
<td>$dh$</td>
</tr>
<tr>
<td>BG</td>
<td>$bg$</td>
</tr>
</tbody>
</table>

WORD DIVIDERS

The cuneiform syllabary of Akkadian, but its simplicity as compared with its parent syllabary shows that it has been specially drawn up for its present purpose. There is no conclusive evidence how the Akkadian characters were utilized and how the new characters received OP values; though several scholars have advanced theories.1

It is uncertain also when this Old Persian system of writing was invented. The extant inscriptions are largely those of Darius I and of Xerxes, and it is tempting to ascribe the invention to the orders of Darius when he wished to record the events of his accession, on the Rock of Behistan; but there are three inscriptions of Cyrus, as well as one each purporting to be of Ariarames and of Arsames. These last two may have been set up as labels to small monuments or other objects of a later period;2 the orthography points to approximately the time of Artaxerxes II.3 Of the inscriptions of Cyrus, one is very fragmentary, and the other two are brief labels; yet as they were inscribed in the palace which belonged to Cyrus,4 at Pasargadae (Murghab), they show that the OP cuneiform syllabary existed and was in use in Cyrus’s time.5

§19. The Syllabic Characters of OP number 36, including the following:

3 vowel-signs: a i u

22 consonant-signs with inherent a:

kšt cšt cšt lšt ršt dšt nšt phšt bhšt mšt yšt ršt

4 consonant-signs with inherent i:

jšt mšt všt

7 consonant-signs with inherent u:

kšt gšt cšt dšt nšt mšt ršt

A close transcription of the cuneiform, when desirable, will be given by keeping the inherent vowels as raised letters; but for most purposes a normalized transcription (§45) will be satisfactory.

§20. The Alphabetic Order of Normalized Old Persian, as employed in this volume, is the following: h t t k x g c f t h g d n p f b m y r l v s š z h. The transcription here used differs in

(Hamadan) in Media; though the two kings are spoken of in them only as ‘king in Pārsa = Persis’, which was quite distinct from Media. They may have been set up in the time of Artaxerxes II as part of an anti-Cyrus propaganda, since Cyrus the Great had dethroned Arsames, and Cyrus the Younger came very near defeating and killing Artaxerxes II at Cunaxa (cf. JAOS 66.206–12). The gold tablet AHe may have been a third in the same series; all three are in Old Persian only.4 Cf. especially Schaefer, SBPAW 1931.636–42.4 They are hardly to be ascribed to Cyrus the Younger, despite Wb. ZDMG 48.653–65 (cf. also KIA lvii–lix) on CMa, which alone was known to him; for the opposing view, cf. Hs. Klio 8.1 ff.5 Though perhaps not much used by him. The other three known inscriptions of Cyrus the Great are in Akkadian; but Strabo 15.3.7–8 (page 730), on the authority of Onesicritus, states that the tomb of Cyrus at Pasargadae bore at least two inscriptions, one being bilingual, Greek and Persian. We need attach no importance to the identification of the languages by Onesicritus, but the account indicates that Cyrus had inscriptions engraved in more than one language; in which case it is unlikely that his own vernacular was omitted. Cf. JAOS 66.206–12; but also Hinz, ZDMG 96.343–9.

1 For a critique of these views, see Wb. KIA lv–lx.
2 Ariarames was great-uncle of Cyrus and great-grandfather of Darius I; Arsames was son of Ariarames and grandfather of Darius. Note that the two inscriptions are both on gold tablets and found at or near Ecbatana.
3 For a critique of these views, see Wb. KIA lv–lx.
some points from that used by certain other scholars in recent years, as follows:

ā also d (KT, Scheil).

ī or ū without mark of length (KT, Wb., Scheil, Mt., Bv.).

x ṛk (KT), ḍ (Wb.), ḍ (Kg., Brd.), ḍ (Hinz).

ç or ḍā (Wb.).

j or ḍā (Wb., Scheil), ḍā (Hz., Hinz).

θ or ḍh th (KT), ḍh (Wb., Hinz), ḍh (Scheil).

ζ tr (KT), θ (Tm., Hz.), ḍ (Wb.), ṣ (Bv.), ṣ (Kg., Brd., Hinz).

f ā (Wb.).

y v ā (Kg., Brd.).

Some scholars also regularly indicate omitted h and n by raised letters or by letters in parenthesis, or the omitted n by a tilde over the preceding vowel. A few other variations are found, but it is hardly worth while to list them.

§21. The Representation of a in OP Writing. The character a at the beginning of a word represents either ā or a, and decision must be made on etymological and morphological grounds. Elsewhere in the word the character a is used only after an a-inherent character, the value being ā; thus nənwə = nāma. When the a-consonant is immediately followed by another consonant, or is final, the a of the consonant either represents ā or has no value at all; thus ḍrəmə = daršam. For a or ā in diphthongs, see §24: for final ā written ā, see §36.

§22. The Representation of i and u in OP Writing. OP i is normally represented by the character i initially, and medi ally by the character i preceded by an i-consonant, or, if there is no special i-consonant character for the consonant sound, by the a-consonant; thus imə = ima, āiΔ = āi, pəiΔ = pila.

OP u is similarly represented; uΔa = ulā, kΔuΔuΔ = Kāruš, pΔuΔ = pula.

Thus the difference of short and long in i and u is not represented in the script, except in the way indicated later (§23), of rare occurrence; and where there is no special i-consonant character or u-consonant character, there was no means of indicating the difference between t and the diphthong ai, and between ā and au (§24).

---

1 Bv. Gr. §105 uses this transcription to indicate a strong sibilant; not a long sibilant, since Iranian shortened all long consonants (§30).

The i is occasionally omitted after an i-inherent consonant, and the u after a u-inherent consonant; there are the following examples, in the normalization of which we indicate the omission by printing the inherent vowel as a raised character:

vəbiš DB 1.65 and other forms of the same word; so always in DB, but vəi- in other inscriptions.

Vəšəs-pa -pam -pahyā, always in DB, in some DS inscriptions, and in those of Artaxerxes II and III; but Višəspla etc. elsewhere.

Arminvinya four times in DB; also -min-.

jvə-diy ASd 3; but jvə, jvəhəyə, ajvətam, jvə twice each, in inscriptions of Darius and Xerxes.

Mətra, Mətra, and also Mən[ra], in late inscriptions.

[Vərə]zəməya A?P 8; Vahyavədəpəya Sd.

Nabulxədracara DB 1.78f, 84, 93; but more often Nabulxədracara.

Kuərdə DB 2.65.

Sugöda DPe 16; but Suguda DB 1.16, DNA 23, Sugulä DSl 38, and Sugda XPh 21, Sugulä DPh 6, DH 5. With səwədə alongside səwyəuda, cf. sərəkrənə = fra-haravam DB 1.17, alongside the usual kərəwə = harava (DB 1.40, etc.).

The i is omitted after an a-inherent consonant, three times in inscriptions of Darius, and four times in those of Artaxerxes II; we may indicate this by a raised a:

Bəbrəraw DBi 11; elsewhere Bəbiraw.

bərəty DB 5.22f; bərətiy DNA 42.

HəzəmənӦsəya Dsa 2f, ASd 2 (copies a and c); HəzəmanӦsiya A'Sa 3; for the common HəzəmanӦsiya.

əbəyəpara A'Sa 4, for *əbəyəparam.

əpərvəyəkama A'Sa 3, and presumably [nəyə]/kama A'Sa 4.

§23. Written Indication of Length of i and u was at most sporadic, and is not absolutely certain even where it seems to be meant. Since final i and u were written -iyə and -uə, whether long or short (§§37-8), it is only in other positions that indication of length can be sought.

I. Apparently -iyə- in the interior of words contracted to -i-; there are the following examples:

niyaʃədayam DNA 36, and nišədayam XPh 34f.

niyaʃəgya DSn 1, XPh 50, XV 21, and nišəgya XPh 52f.
Ambiguities of interpretation are present where there are no special characters for the i-inherent or u-inherent consonants: 

\(ci^s\) - pri\(s^g\) = nom. Cii\(si\) and gen. Cii\(si\), whence for distinction also a writing \(ci^s\) - pri\(s^g\) = Cii\(si\) is found for the gen.

\(-tsi\) = act. -ti\(i\), mid. -la\(i\), personal ending of the third singular.

\(pu\) = pu\(ça\), but would represent also pu\(ça\) if such a word had to be written.

§25. Postconsonantal \(y\) was written as -\(iy\)-; thus an\(iy\) = ani\(ya\), Skt. an\(y\)as; d\(u\)\(-\)si\(y\)ar\(m\) = d\(u\)\(-\)si\(y\)\(a\)ram = ‘famine’, from *\(d\)u\(-\)si\(y\)ar = ‘year’. But hy was not written hi\(ya\), since i was not normally represented after h (§27, where a few variant writings are listed).

An important regular exception is the relative pronoun and article ty\(a\), always written ty\(a\) = ty\(a\), and never ty\(i\) = ti\(a\). The reason for this is that the nom. sg. masc. and fem. were hy\(a\) and hy\(i\) (Skt. sy\(i\)\(s\)\(y\)ā), in which an i could not be written (§27); and the other forms, using the stem ty\(a\), followed their model in this point: thus nom. masc. hy\(a\), fem. hy\(i\), nt. ty\(a\); acc. ty\(a\)m ty\(a\)m ty\(a\); etc.

§26. Postconsonantal \(u\) was written -\(uw\)-: thus h\(r\)\(u\)\(w\) = har\(u\)wa, Skt. v\(a\)r\(v\)as; \(\theta\)\(u\)\(w\) = \(\theta\)\(u\)\(w\) = \(\theta\)\(v\)ām, Skt. tvām. In \(f\)\(r\)\(h\)\(r\)\(u\)\(v\)\(m\) = fra\(h\)r\(a\)\(v\)ām (for fra-hr\(a\)\(v\)ām) there is an exceptional orthography. But as h was not written before u, the hw from hv was written merely w (§28).

§27. The combination hi\(\v\) was peculiar, since it could normally be used only for the value hai, not for hi. In representing hi, whether the i was an etymological vowel or only a part of k\(i\)y for hy (§25) or for final -\(hi\) (§37), the i was normally omitted in writing: an\(i\) = An\(a\)\(l\)\(a\)\(t\)a, Av. An\(a\)\(n\)\(a\)\(l\)\(a\); d\(k\)\(h\)\(i\)\(u\)\(ś\) = d\(k\)\(h\)\(u\)\(ś\), Skt. d\(s\)\(a\)\(ny\); h\(r\)\(i\) = hy, Skt. sy\(i\)s; h\(r\)\(i\) = pari-bar\(a\)\(k\), Skt. bh\(a\)r\(a\)\(ś\); h\(r\)\(i\)\(a\)\(ṃ\) = h\(r\)\(a\)\(ṃ\)an DB 2.74, Av. h\(i\)\(z\)\(a\)\(ś\). Before an enclitic, the -\(y\) of -hy for -hi disappeared: pari\(b\)a\(r\)\(a\)\(k\)\(h\)i\(ś\) DB 4.74, cf. pari\(b\)a\(r\)\(a\)\(k\)h 78; vik\(a\)n\(a\)h\(a\)h\(i\)\(ś\) DB 4.77, cf. vik\(a\)n\(a\)h\(a\)h\(i\)h 73. Rarely, the h\(i\) is omitted and the i is kept: a\(i\)\(ś\) - t\(a\)\(ś\)a = a\(i\)\(ś\)\(t\)\(a\)\(ś\)a DB 1.85, cf. Av. h\(i\)\(ś\)\(t\)\(a\)\(ś\)a. Both types of writing are exemplified in mani\(y\)\(a\)h\(a\)y DPe 20, mani\(y\)\(i\)\(s\) XPh 47, for mani\(y\)\(i\)\(h\)\(a\)\(y\)h\(a\)y.

By exception, h\(i\) is written in the value hi normally in the place name h\(i\)\(d\)\(a\)w\(s\) = H\(i\)\(d\)\(a\)s.
and its forms, and in its ethnic kʰiʰwʰy = Hīṃ-
duṣa; and once in arohít = Anahita Aṣdā 31. Occasionally there are writings with kʰy for-
hiy- in words which are normally written kʰy-:
such are:
aroʰhiy = arohiya XPh 18; elsewhere arohiya.
dʰesʰyɾhʰiŋa = drayəhiyə XPh 23; elsewhere

drayəhiyə.
aroʰhiŋaɾa = akhiyə XPh 17, XPd 12, XE 17,
and in some copies of XPj; elsewhere aghiya.
XSYhiŋaɾa = XSYhiyə apparently in some
copies of XPj; elsewhere XSYhiyə.

§28. The Combination kʰu also was peculiar,
since it could be used only in the value hau, as in
kʰʰau = hauw. In indicating hau, the kʰ was always
omitted, and only the u written: uɾɾʰmə = ɾubartam; ɾɾʰɾɾʰɾɾʰɾɾuɾɾ = patiɾrapaɾuɾuɾ, cf.
Skt. -yasna; anɾɾʰɾɾ = aniɣəwə, cf. Skt.
anəyu + ə; ɾɾʰɾɾɾɾɾɾə = nom. Dàrayaɾəwəš, ɾɾʰɾɾɾɾɾɾə = gen. Dàrayaɾəhaušu.

§29. The Persistence of Vowel r into OP1
makes difficulties in the normalization. The nor-
malized form of some words containing rə is
certain: thus rəɾəɾə in the month-name Garma-
pada- might theoretically be grama- or garama-
or grma-, but is actually grma-, a form assured
by etymological cognates. The name arəɾəɾəə in
grəsə, though the characters might equally well
stand for Arəsə; and those who would normal-
ize with r as a vowel, write rəsəma, using the sign
for the glottal stop to represent the character
which elsewhere has the vowel value a. But in
θəɾəɾəəib we have no clue to the vowel of the first
syllable; it may be armesh or aramesh or ṛṃiš
(though hardly ṛṃəš, since ɾə became ğ). To
avoid the necessity of making decisions in cases
where there is no evidence, the normalization
here employed is ar alike for phonetic ar and for
phonetic r, and for those instances where we do
not have proof of the value, which may also be
ara or ra.

The problem confronts us wherever we find
three successive consonants of which the first
has inherent a and the second is rə; wherever we
find initial a + rə + a consonant; and wherever
we find at the end of a word the rə preceded by
an a-inherent consonant. The evidence which
may determine the phonetic value consists of
the following kinds:

I. The evidence of etymological comparison:
since OP r comes only from older r, it is testified
to by correspondence with r or its products in
other languages; notably (1) with Skt. r, (2)
with Av. ər (Av. arə normally represents earlier
ar from pIE er or ar, el el al).

II. The evidence of later Iranian: the develop-
ment of the sounds into Pahlavi and into Modern
Persian and its dialects may show the distinction
between older ar and r. Thus r appears as NPers.
ir after dental and guttural sounds, and as ar after
labials, but ar regularly keeps the a-quality, and
does not become ir or ur.

III. The evidence of borrowed words: OP
words appear in Elamite with ir or ur for r, and
with ar for ar; but there are occasional incon-
sistencies. There are also some borrowed words
in Armenian, and a few in Arabic (from Pahlavi),
which have differences reflecting the distinction
in OP between r and ar.

IV. But sometimes the various items of evi-
dence contradict one another, and then a decision
must be made as to which line of evidence is
stronger.3

§80. Old Persian r seems to be established in
the following words; in many instances, fuller
listing of evidential forms will be found in the
Lexicon:
arṭārə = ṛtārə, Elam. ṛ-ta-ha-ci; so also in
arṭāra, Artasəčə, Artavərdiʃə, by the Elamite
transcriptions.
Arəsəma = ṛsəma, Elam. ṛ-sə-ma and ṛ-sə-
ma; so also in Arəka, Arədə.
arəštən = ṛštən by etymology, see Lex.
s.v.
arṣiš, Skt. ṛṣi-, Av. arṣi (r > Av. ar
before ō), NP hišt (h- is a later accretion);
so also arṣibhara.
awahər[a] = awahərdə, Skt. awa-sjat.
ωaɾməɾšišəɾuŋə = -ωaɾməɾʃišə, Av. ωaɾməɾʃišu-, Skt.
ωaɾməɾʃišu-.

1 Greek ar is not conclusive evidence for r, despite kρηνα
= khrə and kρηνας = Bardiya, both with r ($30); cf.
Tevnəyana = Vindsarna, with ar-, and 'Arənəšən =
Arəšəma and 'Arənəšən = Artasəčə, both with r by
the Elam. testimony, despite Gr. ar-. Several Greek
transliterations of place-names have ar for Persian
ar: Parvišu = Parwana, Šarpəšu = Asagarta, etc.
karta- = kṛta-, Skt. kṛtā-, Av. karota-; NPers. kārd has -ār- by analogy to other forms of the verb kar-.
karnwakā = kṛṇwakā, cf. Av. present stem krow-. 
kāra- = kṛṣa-, Elam. kur-ṣa-un.
agarbāyam, āgarbīta = -grā-, Skt. āgrbāyat, Av. gourvayaṭ.
ōgārvarīś = -gre-, Elam. sa-a-kur-ri-ṣi-iš.
adarśnaḥ = -dr-, Skt. dāṛṇaḥ.
parsāmiy = prśāmiy, Skt. prčchāmi, Av. 3d sg. inf. porsaṭ; and other forms of the same verb.
Bardiyā = Bṛd-, Elam. bir-ti-ja.
Parśa = Prṣa, NPers. Parṣ, Arab. Furf; despite Elam. par-rak-qa.
marta- and -barta-, ptc. to roots mar- and bar-,
= mrta- and -bṛta-, Skt. mrta- and bhṛta-, 
Av. mṛrota- and bharota-.
vi-mardatiḥ, Skt. mṛḍāti.
varnaṁ and other forms, = vn-, Skt. varna-, 
Av. varna-.
Varvāna = Vṛkāna, Elam. Mi-ir-qau-ru-ja-ip  
'Hyrcanian', Phl. MPers. Garqān, Gk. Ἱρύκανα.
vardanam = vṛj-, GAv. varzēna, LAv. varzāna-, 
Skt. vṛjāna-; see Lex. s.v.
arḍata- 'silver', Av. vṛṣata-; Yezidi ālī 'silver', 
from earlier ard-,-, is not necessarily evidence 
for OP, since Yezidi is a Kurdish dialect; Skt. 
rajatā- also has a different initial.
pārta- 'battle', Av. pōṣana-, Skt. pṛtana-.
§31. Old Persian ar seems to be established in the following:

By the Elam. writings: Arza (or Araza), Arbairā-, 
Armina, Asagyarda, Pārvāca, Frawarṭiš (also Phl. 
fravartikān), Marqūs, Maristaniya, -ard- in Ar 
varzāda, Vidalvarā (also Av. z'aromā), Vidarna, 
Sparda, hauvanāryāi: many of these confirmed 
also by Greek forms, etc.

By the Avestan and Skt. cognates: atar, Skt. 
antar; garm- in Garmapadāhiya, Skt. gharmā-; 
bard-, Av. sarod-; darga-, Av. daroga-, Skt. 
dirghā-; barṣṇa, Av. instr. barṣṇa; martiya, Skt. 
martya-.

ar*dastāna- 'window-frame', Elam. har-da-iš-dana.
tarsatiya with Iran. tars- because of NPers. tārṣā, 
despite Av. tarsaiti, from ṛṣ-, both with IE 
suffix -ske-; but Skt. tṛṣati from *tṛṣeti.
cartanaiy: the c shows that a front vowel formerly 
stood immediately after it; therefore car- 
from *cer- from *ker-.
Karkā, Gk. Kāpes, Kāpōri; Elam. kur-qa-ap seems 
to have no evidential value.

vajrāiyaī, if identical with Skt. vartaye; see 
Lex. s.v. vart- for ref.

§32. Old Persian ara seems to be established in the following:

By cognates in Skt. and Avestan: apataram, 
aparam, para, hamaran-, parpar, and the 
verbal nouns -kara- and -bara- as second 
elements of compounds.

By Elamite and other transcriptions: Arakadriš 
(or Ark-?), Arabāya, the final of Nabukudr 
vara.

arasaṃ impf. of pres. stem rasa- (-sa- from *ske-), 
NPers. rāṣām; despite Skt. ṛcchāti from ṛ 
sketi.
arānī, Skt. arānī-; see also Lexicon.
daraniya-, Av. zarana-, Skt. khrany-. 

§33. Old Persian ra after consonants seems 
to be established in the following:

After f ṣ x, since p t k in Iranian became the 
corresponding voiceless spirants before another 
consonant (fr became OP ṣ but remained in 
Median, §78): fra- as prefix, Skt. pra, 
and all words beginning with fra-; Mūra; xrauam. 

By transliterations: Patigrabanā; dra in 
Nabukudrācara; Zraka, Gk. Δραγγυάρι.
frāśam in u-frāśam u-frāstam, ptc. to root seen 
in Lt. precor, keeping strong-grade ptc. 
vemarksiya, Elam. pīr-ra-iš-ṣ-man-ni-ja.

vaṇraka, a disputed word; see ref. in Lexicon.

§34. Old Persian graphic ar of uncertain 
value. OP graphic ar cannot be evaluated with 
certainty in the following:

Ablaut grades uncertain: Ardumanī, for which 
the Elam. transcription is lacking; duvarām; 
dajrātanam, in which the restoration and forma 
tion are both uncertain.

Adequate cognates lacking: arjanam, tharmiś.

§35. Old Persian ar before y and v. In this 
position OP ṣ cannot be demonstrated with cer 
tainty. In all instances, graphic ar is followed by
iy or əw, precisely as though the r were a consonant. In some words there is testimony to the value ar.

I. The sequence -ariy- is found in Ariya (and compounds), where Elam. has har-ri-ya, proving phonetic ar and not r: and in the middle amarriyata to root mar- ‘die’, the passive abariyta to root bar- ‘bear’, and the passives akirriyta akarriyata karriyata to root kar- ‘do, make’. The corresponding Skt. forms, in the 3d sg. impf., are aṛamīyate, abhariyate; akrīyate; but the OP forms from root kar- cannot have this vocalism, since the product would be *aṛrīy-. In this verb then there was in these forms a vowel between the k and the r: either a full vowel or the reduced vowel (šwa secundum or s), which assumed the full value of a short vowel in Indo-Iranian. It is likely that the other two verbs had the same formation. Thus there is no sure support for the sequence ri in OP.

II. For OP -arv- we find the following examples:
harvva-, once written fra-harvam; Skt. sāra-
shows that this has a full vowel, as does also
Gk. ñkos.
parvam (and derivatives), corresponding to Skt.
pūrva-, which had r; this became ar in Avestan,
so that here there is Iran. arv.
arvya and arvastam probably have arv, since
the Elam. transcribes arvastam with harva-
as-tam.
Gauharvā = bar-, on the evidence of Elam.
kam-bar-ma, or -barw- on the added evidence
of Akk. gu-ba-ra-ü, Gk. ἀβρᾶς.

§36. Old Persian Final a.
I. OP final a was written with the sign of length; that is, with addition of the separate character for a: uṣa = uta, Skt. udā; -rā = -rā, Skt. ar; mārviya = mārtiyāya, Skt. -asya.

II. But graphic final a represents regularly also any absolutely final ə or any a followed by an unwritten minimal final consonant (§40): pṛṣa = pitā, Skt. pita; uṇa = uṇā, Skt. nāpā; abl. Pārdā = Pārsā, Skt. abl. -ad; npl. tyā = tyā,

III. Any graphic final a represents the ə with an unwritten minimal final consonant: abrə = abara for abara', Skt. ābhara, or abara", Skt. ābhara; hərə = hya for hya, Skt. syā; vərə =
tyə for tyə, Skt. tyād; pərə = piça for piça, Gk. παρός.

IV. Occasionally a graphic final ə represents final a without a following consonant, especially if there is close syntactic connection with the next word; this is almost confined to the genitive ending -əhəyā = Skt. -asya:

a. Regularly in the -əhəyā genitive of the month
name, before māhəyā: Viyaya, māhəyā DB
1.37; other examples 1.42, 96; 2.26, 36, 41,
56, 61, 69, 98; 3.7, 18, 39, 46, 63, 68; and re-
stored in 1.89, 3.88.

b. Sometimes in other genitives standing before
the nouns on which they depend: Uvāzārəhəyā
tauamāyā DB 4.19, 4.22, 4.7, g.9f (but -həyā
DB 2.15f, 2.81); Nabhunmātəhəyā puca DB
3.81, 4.14, 4.30, d.5f, i.7 (but -həyā DB 1.79);
Haličtəhəyā puca DB 3.79; or with which they
agree: Aurəhəyā Mazdāhə XPC 10 (cf. §44);
harvaya, bāmiyə DB 8f (but probably -həyā
DSF 16, 18).

c. Four times before an initial vowel, all in one
short passage (DB 3.38–51): Vahyazdātəhəyā
aja DB 3.38f, 3.46; āhata agarbəyā DB 3.49,
āhata Uvādācaya DB 3.51 (āhata often); in
none of which the syntactic connection is
close.

§37. Old Persian Final i was always written
with added y (§46): amiyē = amiy, Skt. amī;
astiyē = astiy, Skt. astī; this includes the diph-
thong -ai: vəiyē = vāinātīy.

But final -hi, which would be expected to give
-htyē = -htiy, must be written -htyē = -hți, since
hți is almost never written for hi (§27): amhtyē
= amahyi, for *as-masī; vəintēktiyē = vāināhky.

§38. Old Persian Final u was always written
with added v (§46): puru = purū, Skt. puru;
anuvē = anuv, Skt. ānu; bəruvē = baratū,
Skt. bhārātū; həuvē = hauv.

§39. Old Persian Nasals before Conso-
ants were omitted in the writing, except before
y and v; such omitted sounds may be repre-
sented by raised letters in the normalized trans-
scription, when desirable: ketiyē = kātiyē, Skt.
Śanti; ləvəviyē = Kaṃbājya 'Cambyses', see
Elam., Akk., Gk. transcriptions in Lexicon;
brahē = baравaka, Phl. bandak; kəpədē = Ka-
pa'da, Elam. qa-am-pa-taš.