of prefix seems to have contracted with verbal augment a-, unless prevented by analogy; examples in §131.

III. Final -i before initial \(\d{a}\)- keeps the writing iy^a : the script does not show whether the -i is consonantized before the vowel, since it has no machinery for the distinction; but pati- never becomes * $pa\check{s}iy$ - (= $pa\check{s}y$ -) in compounds, though -ty- becomes OP -š(i)y-: patiy-āvahyaiy, patiyāiša", patiy-ajatā; pariy-ait(iy), niy-apaišam, viyatarayam.

The sequence -iua- seems in some instances to contract to -ī-; all the examples are in augmented forms of compound verbs, in some of which the uncontracted forms also appear, in which the analogy of the separate uncompounded form is the cause of the failure to contract: abī-jāvayam, also abiy-ajāvayam,

nī-šādayam, also niy-ašādayam.

nī-štāya, also niy-aštāya and niy-aštāyam.

nī-yasaya for *niy-ayasaya; perhaps [a]tīya[siya] for *atiy-ayasiya.

IV. Final -u before initial &- is similarly ambiguous in its writing; but probably the prefix Aryan *su-, pIr. *hu-, became hv- before a vowel, as in uvaspa-, cf. Av. hvaspō, Phl. hvasp. Other examples of this prefix can be found in the Lexicon, under hu-.

V. Final m of the prior element was of course not written before an initial consonant of the second part:

 ha^m -gmatā, ha^m -karta-, ha^m -dugā, but ham-aranam. ha^m -taxšataiy, but ham-ataxšatā.

VI. The initial s- of the second element appears as § after a final -i or -u of the preceding element, according to the Aryan phonetic variation (§115): pAr. *sad-, pIr. *had-, but pAr. ni-šad-, unchanged in Iranian: generalized in niy-ašādayam, contracted nī-šādayam.

*ni-stā-, pAr. ni-štā-, unchanged in Iranian and generalized: niy-aštāyam, niy-aštāya, contracted nī-štāya.

Skt. sam-aranam, OP hamaranam; but with prefix, ušhamaranakara, with double writing of the initial, δ being the value after u, and hbeing the value when initial in the separate word. Perhaps also OP Pātišuvariš for Pātišhuvariš, see Lex. s.v. Cf. Reichelt, Aw. Elmb. §103, for the same phenomenon in Avestan.

For the initial *š*- of the enclitic pronoun -*šaiy* $-\sin -\sin -\sin -\sin$

VII. Initial y- after a final consonant of the prior element must of course appear as -iy-, as in $du\check{s}iy\bar{a}ram$, from $du\check{s}-+y\bar{a}ram$.

APPENDIX TO CHAPTER III

The origins of OP sounds, as expressed in the normalized transcription, may be traced from the following data (some references to Chapter II are included):

a < pIE e o a \$61, cf. \$36; pIE z z \$63.I, \$66.II, §67.I–II; pIE m n §67; pIE a §71; graphic for $i \ \S 22$: see also ar below.

i < pIE i §64; pIE a §63.II.

u < pIE u §64; analogical for r §66.I.

 $\bar{a} < \text{pIE } \bar{e} \ \bar{o} \ \bar{a} \ \$62, \ \$36; \ \text{pIE } \bar{m} \ \bar{n} \ \$68; \ \text{by con-}$ traction of $\check{a} + \check{a}$ §131, of $\check{a}h\check{a}$ §61, §131; graphic for -ă §36.I, §135; by vriddhi §126.

 \bar{i} < pIE \bar{i} §65; by contraction of t + t §131, of i + a \$131, \$140.III; by vriddhi \$126.

 $\bar{u} < \text{pIE } \bar{u} \text{ §65; by vriddhi §126.}$

 $ai < pIE \ ei \ oi \ ai \ 69; pIE \ ai \ 71; by contraction$ of a + i §131; from a with epenthesis §127; graphic for a before y §48; cf. §136.

au < pIE eu ou au §70; pIE ou §71; by contraction of a + u §131; graphic for a before v §48, and for ahu §70.

 $\bar{a}i < pIE \ \bar{e}i \ \bar{o}i \ \bar{a}i \ \S72$; by contraction of \check{a} + *āi* §131; graphic for ai §72, §179.IV; by vriddhi §126: cf. §136.

 $\bar{a}u < \text{pIE } \bar{e}u \ \bar{o}u \ \bar{a}u \ \72 ; graphic for $\bar{a}hu \ \$72$; by vriddhi §126.

ar §29-§35.

= ar < Iran. ar §31-§33; pIr. br br §66.II;pIE \tilde{r} l §68.

 $k < \text{pIE } q q^{\mu} \S 98, \S 99$; by borrowing \S 99.

 $x < pIE qh q^{u}h $100; pIE q $102; pAr. k $103.I-$ III; pAr. gh §103.IV; by borrowing §100.

 $g < pIE g gh g^{u} g^{u}h \S 98, \S 101, \S 103.IV.$

 $c < \text{pIE } q q^{u} \$98, \$99, \$105; \text{pIE } d + q^{u} \$105.$

 $j < pIE g gh g^{\mu} g^{\mu}h \$98, \$101; pIE s \$120.$

t < pIE t th §76, §76.I-II; pIE dh §103.IV; pIEt(h) in tst(h) and d(h) in dzd(h) §85; by borrowing §76.V, §83.III.

 $\theta < \text{pIE } th \ \$76, \ \$76.II; \text{pIE } t \ \$77-\$81; \text{pIE } k$ §86, §87; for d(h) §83.II; by borrowing §76.V.

- $_{\mathcal{G}} <$ pIE tr~tl §78, §79; pIE $\hat{k}l$ §94; by borrowing §78.
- d < pIE d dh \$76, \$76.III; pAr. d from pIE
 dh \$76.III; pIE d(h) in dzd(h) \$85; pIE ĝ ĝh
 \$86, \$88; by borrowing \$76.V.
- p < pIE p ph \$75, \$75.I; pIE u \$75.IV, \$90; by borrowing \$75.V.
- $f < \text{pIE } ph \ p \ \75 , \\$75.II; \text{pIE } su \\$75.IV, \\$118.IV; by borrowing \\$75.V.
- $b < \text{pIE } b \ bh \ \$75.III; \ \text{pAr. } b \ \text{from pIE } bh \ \$75.III; \ \text{pIE } u \ \$75.IV, \ \$91; \ \text{pIE } p + bh \ \$75.IV, \ \$130; \ \text{by borrowing } \$75.V.$
- $n < {\rm pIE} \; n \; \$110, \; {\rm cf.} \; \$67. {\rm I-II}; \; {\rm pIE} \; dn \; \$83. {\rm I}, \; \$130;$ by borrowing \$110.
- m < pIE m 109, cf. 67.I-II; pIE m + m 130; by borrowing \$109.
- y < pIE i §113.
- $r < \text{pIE } r \ l \ \S79, \ \S106, \ \S107; \text{ part of pIE } r \ \bar{r} \ l \ \bar{l} \ \S66, \ \S68; \text{ by borrowing } \S106.$
- l < by borrowing only, 107.
- v < pIE y \$114.
- $s < \text{pIE } s \$115, \$116; \text{pIE } ts \text{ of } tst(h) \text{ and } dz \text{ of } dzd(h) \$85; \text{pIE } \hat{k} \$86, \$87, \$90, \$93, \$95; \text{pIE } ky \$90; \text{pIE } s\hat{k} \$97, \$130; \text{pAr. } s\epsilon \$105; \text{ by borrowing } \$116.$
- \$ < pIE \$ \$102, \$105, \$115, \$117, \$140.VI; pIE \$\hat{k}\$ \$89, \$93, \$96, \$120; pIE \$g\$ \$gh\$ \$93, \$96, \$120; pIE \$b\$ \$93, \$96, \$120; pIE \$b\$ \$92, \$102, \$130; pIE \$b\$ \$\hat{k}\$ \$102; pAr. \$c\$ \$104; pIE \$t\$ \$80, \$82; pIE \$str\$ \$79, \$130; pIE \$d\$ \$105; \$str\$ \$79, \$130; pIE \$d\$ \$105; \$str\$ \$130; by analogical extension \$84; by borrowing \$117.
- $z < pIE \hat{g} \hat{g}h \$86, \$88, \$91, \$95; pIE \hat{g}hy \$91;$

pIE s §120; pIE $d + \hat{g}h$ §130; pIE dz in dzd(h) §85; by borrowing §120.

 $h < \text{pIE } s \ \$118, \ \$140.VI;$ by borrowing \\$118.V.

There are also certain losses and increments which could not be included in the preceding; these are merely graphic except when specified as phonetic:

Losses:

i after *h* §64, §27, §38; after *a*-consonant §22.

h before i \$27, \$64, \$118.III; before u \$28, \$70, \$118.IV, \$140.IV; before m r \$103.II, \$118.II; (phon.) in āh from āhāh \$131.

y final before enclitics §118.III, §136.

v final before enclitics §137.

t final §40, §84.

d final §40, §84.

n final \$40, \$84, \$112; medial \$39, \$108, \$111; (phon.) by dissimilation \$68.

m medial §39, §108, §111, §140.V.

pIE ų (phon.) after labials §114.

pAr. t (phon.) in -nt §40, §84.

pAr. h (phonetic in some positions) §40, §105, §119.

syllables by haplology (phon.) §129.

Increments:

i after consonants §25, §140.VII.

u after consonants §26, §114; (phon.) by anaptyxis §128.

y after -i $\S37$, $\S64$, $\S113$; after $\bar{\imath}$ $\S23.I$, $\S65$.

v after -u §23.II, §38, §64; after \bar{u} §23.II, §65, §114.

x (phon.) before ξ + consonant §96.

CHAPTER IV. FORMATION OF NOUN AND ADJECTIVE STEMS

§141. Noun and Adjective Stems may be either the bare root, nominal or verbal (§142), or the same with a thematic vowel -a- (§143), or the same with suffix ending in -ă- (§144-§151) or in -ř- (§152) or in -ā- (§153) or in a consonant (§154-§158). A noun or adjective suffix attached directly to a verbal root is called a primary suffix; one attached to a noun or adjective stem is called a secondary suffix. Many stems have two or more suffixes, or are compounds of two elements, the prior of which is or becomes invariable. A fuller treatment of the stems than that given in the following sections will normally be found in the

Lexicon s.vv. The suffixes and the antecedent stems will here be presented not in pIE form, but in their pAr. or even Iranian or OP values, as convenience may dictate.

The following noun and adjective stems are not dealt with here or are dealt with only in part, because of uncertainty in their formation or because they are loan-words; possible interpretations of their formation will in some instances be found in the Lexicon:

 -a- stems: fraša-, spāθmaida-, Ainaira-, Autiyāra-, Atamaita-, Adukanaiša-, Arabāya-, Arxa-, Armina-, Ū(v)ja-, Uvādaicaya-, Katpatuka-, Ka^m- panda-, Karka-, Karmāna-, Kūša-, Gandāra-, Gandutava-, Tigra-, Dātwahya-, Daha-, Dubāla-, Naditabaira-, Nabukudracara-, Nabunaita-, Nisāya-, Parga-, Pirāva-, Frāda-, Maka-, Mudrāya-, Yauna-, Labanāna-, Sug(u)da-, Skuna-, Skudra-, Sparda-, Zazāna-, Zūzahya-, Zranka-, Haraiva-, Haldita-.

-ā- stems: Aθurā-, Arbairā-, Aršādā-, Izalā-,
 Uyamā-, Kuganakā-, Tāravā-, Tigrā-, Çūšā-,
 Yautiyā-, Yadā-, Raxā-, Ragā-.

-t- stems: Arakadri-, Kāpišakāni-, Cicixri-, Cišpi-, Pātišuvāri-, Višpauzāti-.

-ă- stems: Abirādu-, Kuⁿduru-, Bābiru-, Māru-.

§142. Root Nouns and Adjectives, some of them only in derivatives or in compounds, are found as follows:

§143. Noun and Adjective Stems with thematic -a- occur as follows:

I. Attached to a verbal root, the ablaut grade of the root varying: kara- in compounds, u-cāra-, kāma-, karša-, gauša-, raga-, adv. daršam, drauga-, baga-, bara- and bāra- in compounds, zana- in compounds; less certain formations in ā-θaha- in āθaha-vaja, caša-, U-tāna-, u-tava-, gara- in bātu-gara-, Vi-vāna-, varga- in hauma-varga-.

II. Extending a non-verbal stem: ūv-nara- to nar-, huvăi-pašiya- to pati-, pada- pāda- to pad-, Mārgava- to Margu-, duš-iyāra- to yār-, vazra- in vazra-ka- to *vazr-, vāhara- in θūra-vāhara- to *vasr-, u-zma- to zam-, hama- to ham-; perhaps Gau-baruva- to baru-, māha- to māh-, viθa- to viθ-.

III. With no obvious simpler nominal or verbal form: ama- in Aršāma-, asa- aspa-, u-ba-, poss. huva-, kaufa-, kāra-, daiva-, darga-, naiba-, Pārsa-, pisa-, Māda-, raθa- in u-raθa-, varka- in Varkāna- and Varka-zana-, Saka-, spāda- in Taxma-spāda-, spāra- in Vāya-spāra-; the restored hana- in hana-tā-; mayūxa-, of uncertain etymology; the possible vāra- in hU-vāra-zmā-.

IV. Corresponding feminine formations in $-\bar{a}$:

iswā-, xaudā-, θ ikā-, didā-, yakā-, Sakā-, ha m dugā-, ha a zā- in hazānam, the uncertain paradayadām, the borrowed maškā-; the feminines to adjectives in masc.-neut. -a-.

V. These formations have varying meanings, including the following:

Abstracts: $k\bar{a}ma$ - 'desire'.

Agents: baga- 'dispenser, god'; drauga- 'deceiver, the Lie'; aršti-bara- 'spear-bearer'; zūra-kara-'evil-doer'; dūraniya-kara- 'gold-worker, goldsmith'.

Passives: ha^m -dugā- 'im-pressed' = 'inscription'; pati-kara- 'made thereto' = 'sculptured figure'; asa- $b\bar{a}ra$ - 'horse-borne'.

Adjectives of relation: Mārgava- 'related or belonging to Margu-, Margian'; ūv-nara- 'good belonging-to-a-man, skillfulness'.

VI. The vocalism of the root varies in these formations, being either -a- (pIE -e- or -o- or -a-), as in baga-, bara-, daiva-; or a zero grade, as in karša-, u-zma-, darga- (see Lex. s.vv.); or a vriddhied or lengthened grade (§126), as in kāma-, asa-bāra-, Mārgava-.

§144. Noun and Adjective Stems with suffix -(i)ia: these are adjectival formations which may acquire substantival use; before the suffix a stem-final -a- regularly, and $-\bar{a}$ - sometimes, disappears. The OP examples are the following:

I. Perhaps primary, in ariya-.

II. In words of numerical value: -ia- in an-iya-; -īa- in duvit-īya-, çit-īya-, to pAr. *duita- *trita-.

III. Forming ethnics: Ākaufac-iya- to *Ākau-faka-; Aθur-iya- to Aθurā-; Armin-iya- to Armina-; Asagart-iya- to Asagarta-; Ū(v)j-iya-to Ū(v)ja-; Uvārazmi-ya-; Kūš-iya- to Kūša-; Ga¬dāra-ya- (possibly error for -riya-) to Ga¬dāra-; Θatagu-iya- (error for -wiya- or -udaya- or -udiya-?) to Θatagu-; Putā-ya-; Bābirw-iya-; Mac-iya-to Maka-; Spard-iya- to Sparda-; Haxāmaniš-iya-; Harawati-ya-; Hi¬du-ya (error for Hi¬duv-iya-?).

IV. Other formations, including some personal names: agr-iya- to agra- (§148.I), \(\theta\) anuvan-iya-, daran-iya-, brazman-iya-, mart-iya- to marta-, haš-iya- to hat- (§240), ha-miç-iya- to mi\(\theta\)ra-; Artavard-iya-, Ka\(^m\)b\(\text{uj}\)-iya-, Bard-iya-, Mardun-iya-.

V. Corresponding feminine forms as abstracts, which may become concretes: yaw-iyā 'course, canal'; nāv-iyā 'navigability'; perhaps paiš-iyā 'writing, document'.

VI. With suffix -tia, becoming Med. $-\theta ia$ in $x \le a + b ia$ in anušiya, and OP -sia in anušiya.

§145. Noun and Adjective Stems with suffix -ta- found in OP are mostly participles (§242), superlatives (§190.II), and ordinal numerals (§204). The remaining examples are arwasta-, a neuter abstract seemingly formed upon an adjective *aryant- (see Lex. s.v.); Xšabrita-, a hypocoristic to a compound personal name; ardata- 'silver', perhaps an -a- extension of a participle in -nt-, cf. Lat. arg-ent-um; dasta- 'hand', which cannot be related to any simpler extant root; and three feminine abstracts arštā-, hanatā-, avastā-, the last two of which are dubious and the third is taken as having acquired concrete meaning.

§146. Noun and Adjective Stems with surfix -ka- are adjectives which may assume substantival meanings. This -ka- may be attached directly to a stem, nominal or verbal; it may appear as -aka- or -ika-, in which it can often not be determined whether the vowel belongs to the suffix or to the basic stem. Only when -ika- is attached to an -a- stem is it clear that the -i- belongs to the suffix. The OP examples are:

I. Perhaps primary: uš-ka-, karnuv-aka-.

II. Secondary: *Ākaufa-ka- in Ākaufaciya-; Anāma-ka-; aʰr-ika-, to pAr. *asra-, LAv. avra-; Arša-ka-, hypocoristic to a compound name; āršti-ka-, probably with vriddhi; kapauta-ka-; kāsa-ka-; baʰda-ka-; vazra-ka-; Vahau-ka-, hypocoristic to a compound name.

III. Of somewhat uncertain analysis: niyāka-, apa-niyāka-, marī-ka- (see Lex. s.vv.).

§147. Noun and Adjective Stems with suffix -na-, varying with -ana-, are not infrequent in OP; there are also extensions of the -na- to -ina- and -mna-.

I. Primary -na-, added to the root or to the thematic verbal stem (often not distinguishable from verbal nouns!), making nouns of various meanings:

Expressing place: apa-dā-na-, daiva-dā-na-, āyada-na-, fem. us-taša-nā-, ā-vaha-na-, stā-na-, varda-na-.

Expressing abstracts (actions): fem. fra-mā-nā-, loc. adv. aš-naiy, adj. hu-rada-na-, yā-na-, vaš-na-, ham-ara-na-; possibly fem. Pati-graba-nā-, becoming a place-name.

Expressing concretes: arja-na-, fem. stū-nā-, fem. hai-nā-.

Expressing adjectival actor, as personal name: Vidar-na-; name of month, Vi-yax-na-.

Forming adjectives: a-xšai-na-.

Forming passive participles, see §243.

II. Secondary -na-, forming adjectives: parana-, perhaps here kam-na; as masc. sb., drauja-na-, as nt. abstract pariy-ana-; forming hypocoristic personal name, $\bar{A}\varsigma i$ -na-; perhaps Mardu-na- in Mardun-iya-; forming place names, with lengthening of preceding vowel, $Vark\bar{a}na$ - to varka-, Ha^m -gmatana- to ha^m -gmata-; with -na- of uncertain origin, $h^az\bar{a}na$ - (see Lex. s.v.).

III. Secondary -ina-, forming adjectives: $a\theta a^n$ ga-ina-, $k\bar{a}saka$ -ina-, nauca-ina-.

IV. -mna- in present middle participles, see §241.

V. For the dubious neuter abstract dar-tana-, see §238.

§148. Noun and Adjective Stems with suffix -ra- occur in OP as follows:

I. The suffix -ra, sometimes primary and sometimes secondary, appears in agra- whence agriya-, A^hu -ra-, tig-ra-, personal name Θux -ra-, $\theta \bar{u}$ -ra- in $\Theta \bar{u} ra$ - $v \bar{u} hara$ -; adj. $d \bar{u}$ -ra-, whence adv. $n \bar{u}$ -ra m; the uncertain hu- $ra \theta a$ -ra-. Problematic, and perhaps not Iranian, ta cara- da cara-. On v azra- in v azra-ha-, $v \bar{u} hara$ - in $\Theta \bar{u} r a$ -v ahara-, p a r tara-, see §154.I.

II. Comparatives in -(a)ra-, -tara-, $-\theta ara$ -, see §190.III.

III. Primary suffix -tra- appears in ci-ça-, xšaça-, pu-ça-, va-ça- in vaça-bara-; ^hU-vāxš-tra- (with Med. tr after s); loanword Mitra- Miθra-, also in ha-miç-iya- and Va^hu-misa-.

\$149. Noun and Adjective Stems with suffix -ma-.

I. Primary, in the following: dar-ma- in personal name Upa-darma-, gar-ma- in month name Garma-pada-, fem. tau-mā-, adj. tax-ma- in personal names (see Lex.), hau-ma- in hauma-varga-. On dubious siyamam, see Lex.

II. Secondary, in ordinal nava-ma- (§204.IV).

§150. Noun and Adjective Stems with suffix -ua- are a miscellaneous group. They include ai-va- 'one'; adjective duru-va-, to verbal root dar-; adj. par-uva-; ethnic Parθa-va-, cf. Pārsa-; yā-va-, to relative ya-; har-uva-; visa- and (Med.) vispa-, from pIE *μik-μο-; jī-va- 'living', unless the v is somehow radical (cf. §216). On Gaubaruva-, see Lex. s.v.; on fem. aruvā- as abstract, see Lex. s.v.

§151. NOUN AND ADJECTIVE STEMS WITH MIS-CELLANEOUS -a- SUFFIXES, not already given, include the following:

- θa - in fem. gai- $\theta \bar{a}$ -.

-ga- in $a\theta a^n$ -ga-, cf. asan-.

-sa- in bux-ša-, in personal name Baga-buxša-.

§152. NOUN AND ADJECTIVE STEMS ENDING IN -t-, apart from some names of persons and places listed in §141, are the following; stems in -t- and those in -t- cannot be distinguished except by correspondences in other languages, which sometimes are lacking (§22):

I. Stems in -i-: acc. $pa\theta$ -im, $b\bar{a}j$ -im; $\bar{a}\theta i$ - in personal name $\bar{A}\theta iy$ - $\bar{a}bau\check{s}na$ -; dip-i-; $u\check{s}a$ - $b\bar{a}r$ -i-; $\bar{A}ci$ -extended from * $\bar{a}tr$ - in hypocoristic personal name $\bar{A}ci$ -na- and in month name $\bar{A}ci$ - $y\bar{a}diya$ -; personal names $D\bar{a}dar\check{s}$ -i-, month names $D\bar{a}dar\bar{s}$ -i-, $B\bar{a}ga$ - $y\bar{a}d$ -i-; secondary in adjective $y\bar{a}uman$ -i-; loanword $skau\theta$ -i-.

II. Stems in -ī-, some of which may have been transferred to -i- stem declension (§179.I): āp-ī- (see Lex. s.v.); dual uš-ī-; fem. adjj. to stems in -vant-, as place names, Sikayah-uvat-ī-, Harah-uvat-ī-; fem. ptc. yau[dantim], to masc. -ant-; to stem in -tar-, Bāx-tr-ī-; hUvārazm-ī-; adj., aθangain-ī- in npf. -iya, to masc. aθangaina-.

III. Suffix -ti-: arš-ti-, iš-ti-, pa-ti- in hwǎipašiya-, šiyā-ti-, pas-ti- to pad- 'foot', mar-ti- (pIE *mṛ-ti-) 'death' in wā-maršiyu-, Fravar-ti-, perhaps ni-piš-ti-.

IV. Miscellaneous: -thi- in dwar- θ i-; -mi- in $b\bar{u}$ -mi-; perhaps -mi- in θ ar-mi-.

§153. NOUN AND ADJECTIVE STEMS ENDING IN -ŭ-, apart from some place names listed in §141, are as follows:

I. Stems in -ŭ-: adj. par-u-, ard-u- in personal name Ardu-maniš-, vah-u- in personal names Dāraya-vau- Vau-misa- Vahau-ka-; substantives baru- in Gau-baruv-a-, maršiy-u- 'death' in adj. wā-maršiyu-, mard-u- in Marduniya-, Mag-u-, Hihd-u-, Marg-u-, Kūr-u-, uncertain bāt-u- in bātu-gara-; loanwords pir-u-, Ufrat-u-; restored loanword agur-u-; uncertain as to stem, Θatag-u-, sikabr-u-.

II. Stem in -ū-; tan-ū-.

III. With suffix -tu-: $g\bar{a}$ - θ u-; xra- θ u- (unless the -t- is in this word radical rather than suffixal). For θ , see §81.

IV. With suffix -iu-: dah-yu-, with uncertain root.

§154. Noun and Adjective Stems ending in -r-, as found in OP, consist of two classes of nouns.

I. Neuter nous with nom.-acc. ending in -r, replaced by -n- in other case-forms; in OP, only in derivatives: pAr. *uaź-r, in OP vazr-a-ka-; pAr. *uas-r in OP Θūra-vāhar-a-; pAr. *prt-r in OP partara-. An extension of the -n- form of the suffix -tr/-tn- is probably to be seen in the OP infiritive (§238), perhaps also in [da]rtanayā (§238).

II. Nouns with suffix -tar-, including agents ja**tar-, fra-mā-tar-, dauš-tar-; words of relationship pi-tar-, mā-tar-, brā-tar-; also ā-tar- 'fire', in derivative personal names.

§155. Noun and Adjective Stems ending in -n- are of several kinds in OP:

I. Stems in -an-: as-an- and its derivative $a\theta a^n$ -ga-, arš-an- varying with arš-a-, barš-an-.

II. Stems in -tan-: ara-šan- (for -š-, §82).

III. Stems in -man-: as-man-, tau-man-, nā-man-, braz-man- in adj. brazman-iya-, yāu-man- in adj. yāuman-i-.

IV. Stems in -van-: artā-van-, xšaça-pā-van-, θanuvan- in θanuvan-iya-.

V. Stem in -vin-: adj. manah-uvin-.

§156. Noun and Adjective Stems ending in -s- are of several kinds in OP:

I. Stem in -8-: Maz- $d\bar{a}$ -h-, also in A^hura - $mazd\bar{a}h$ -.

II. Neuters in -as-: dray-ah-, man-ah, mi\theta-ah-, rauc-ah-, z\bar{u}r-ah-, har-ah- in Harah-wati-; can-ah-assuming masc. forms in cpd. personal name Aspacanah-; suffixal -las- in rau-tah-; suffixal -nas- in far-nah- assuming masc. forms in cpd. personal name Vi\(^n\)dat-farnah-.

III. Stems in -ias-: sika-yah- in place name Sikayah-wati-; comparatives tawī-yah-, vah-yah-in personal name Vahyaz-dāta (§120); zero grade-is- in superlative ending -iš-ta-, in maθ-išta-dwa-išta-, §190.II.

IV. Stems in -is-: neuters abi-cariš, had-iš; be-coming masc. in personal names Ardu-man-iš, Haxū-man-iš.

§157. Adjective Stems with suffix -vantare found in OP only in derivatives; the OP syllabary does not make clear whether these derivatives are formed on -vant- (pIE -yent-) or on zero grade -vat- (pIE -ynt-); more probably they are made upon vat-: ar-uvant- in arwas-ta-, sikayah-uvant- in Sikayah-uvant-i-, harah-uvant- in Harah-uvat-i-.

§158. OTHER NOUN AND ADJECTIVE STEMS ENDING IN CONSONANTS are to be found listed among Root Nouns and Adjectives, §142.

§159. Noun and Adjective Compounds in OP, apart from phrasal adverbs (§191.IV), may have as prior element an inseparable adverb as in a-xšata-, hu-cūra-, duš-iyūra-, ham-arana- (§268); or a prepositional adverb, as in apa-dūna-, pati-kara- (§268); or a noun or adjective stem. They have as second element a noun or adjective stem, which may receive an additional suffix.

Only compounds of stem + stem will be here discussed. Either stem may itself be a compound; either stem may already have one or more suffixes. The initial syllable of the first element, especially in adjectives, may show vriddhi or lengthening of the vowel, as in dāraniya-kara- 'gold-worker' to daraniya- 'gold'; less often this appears in the second part, as in Bāga-yādi- 'god-worshipping (month)', where it is seen in both parts, and in asa-bāra- 'horse-borne', where it indicates passive meaning.

Compound adjectives with second elements of a specific gender assume the genders of their derived meaning and use, with change of form if necessary. Thus the masc. name $Hax\bar{a}$ -maniš 'Having the mind of a friend, Achaemenes' has a neuter stem as its second element, used without change in the masculine adjective as noun; the masc. adjective tigraxauda- 'wearing a pointed cap' has as second element the fem. $xaud\bar{a}$ - 'cap'.

Derivative adjectives to compounds may be made by the addition of suffixes: Haxāmaniš-iya-'Achaemenian' to Haxāmaniš-, Asagart-iya- 'Sagartian' to Asa-garta-.

Compounds of stem + stem, so far as they occur in OP, may be divided into (1) Determinative Nouns and Adjectives, dependent and descriptive; (2) Possessive Adjectives, dependent and descriptive; (3) Participial Adjectives, the prior element governing the second. Adjectives of all these classes may become nouns as names of persons and places.

The following will not be dealt with here, because of uncertainties or difficulties in their interpretations; but some information may be found in the Lex. s.vv.:

Common nouns: āθahavaja, huvādā-.

Personal names: $Ka^mb\bar{u}jiya$ -, $Gaum\bar{a}ta$ -, $Ci\bar{s}pi$ -.

Place names: Uvādaicaya-, Uvārazmī-, Paišiyāuvādā-.

Personal and place names of Elamite, Akkadian, and Armenian origin also cannot be discussed among OP compounds.

- §160. DETERMINATIVE NOUNS AND ADJECTIVES, compounded of stem + stem; the prior element determines or limits the second.
- I. Dependent determinatives, the prior element standing in some case relation to the second:
 - a. Accusative:

hamarana-kara- 'battle-making'; zūra-kara- 'evildoing'; dāraniya-kara- 'gold-working'; ciyǎkara- 'doing how much', avā-kara- 'doing that'. aršti-bara- 'spear-bearer'; vaça-bara- 'bow-bearer'; taka-bara- 'petasos-wearing'.

xšaça-pāvan- 'kingdom-proteeting, satrap'; duvarθi- (for *duvar-varθi-) 'doorway-covering, colonnade'; hauma-varga-, maz-dāh-, bātu-gara-, see Lex. s.vv.

Arta-vardiya- 'Justice-worker'.

b. Genitive:

arda-stāna- 'place of light'; daiva-dāna- 'holder of demons'.

Xšayāršan- (from *xšaya-aršan-) 'Hero of Kings'; Gau-barw-a- 'Lord of cattle'; Vahu-misa-'Friend of the good'.

c. Instrumental:

asa-bāra- 'borne by horses'; uša-bari- 'borne by camels'; [dasta]karta- 'done by hand'.

Baga-buxša- 'Freed by God'; Bagābigna- perhaps 'Begotten by God'.

- d. Ablative: $\bar{A}\theta iy-\bar{a}bau\check{s}na$ 'Freed from misfortune'.
- e. With idea of specification: Ciça-taxma-'Brave in lineage'.
 - II. Descriptive determinatives,1 the prior ele-

¹ In Ciça-taxma- the prior element is not the bare stem, but the stem with an added nasal, attested in the transliterations into Elam., Akk., and Greek. This nasal can hardly be the acc. case-ending (as tentatively suggested by Bthl. AiW 587); it seems unexplainable except as a transfer from some other epd. in which a nasal in this position was justified (Schulze, KZ 33.216.n3; Richter, IF 9.203-4; Foy KZ 37.504-5). Cf. Gk. 'Αρτεμ-βάρης (Hdt. 1.114-6, 9.122; Aesch. Pers. 29, 302, 971) = OP *Artam-bara 'Arta-upholder', where the prior element seems to be in the accusative (cf. Stonecipher, Graeco-Persian Names 27).

¹ The greatest part of this class consists of those whose first part is an inseparable adverb or a prepositional prefix; under our plan these are not here considered (§159).

ment directly modifying the second as adjective or appositive:

Ahura-mazdāh- 'Ahuramazda', lit. 'Lord Wise'; cf. Lex. s.v.

- §161. Possessive Adjectives, often differing from the preceding only by a shift of accent which can be observed in accented Sanskrit words, but cannot be determined in OP or Avestan.
- I. Determinative compounds (cf. §160.I); the OP examples are all names of persons or of places or of months:
- a. Accusative: Aspa-canah- 'Having love of horses'; Bāga-yādi- '(Month) marked by the worship of the bagas'.
- b. Genitive: Arta-zšaça- 'Having a kingdom of justice'; Aršāma- (from *arša-ama-) 'Having the might of a hero'; Haxā-maniš- 'Having the mind of a friend'; Garma-pada- '(Month) having the place of heat'; Asa-garta- '(Land) having caves of stone'.
 - II. Descriptive compounds (cf. §160.II.):
- a. The prior element is an adjectival modifier: paru-zana- 'having many men'; vispa-zana- 'having all (kinds of) men'; visa-dahyu- 'containing all lands'; hama-pitar- 'having the same father'; ha-mātar- 'having the same mother'; tigra-xauda- 'wearing pointed caps'; uvā-maršiyu-'having one's own death' (see Lex.).
- Ariya-ciça- 'Having Aryan lineage'; Ardu-maniš- 'Having an upright mind'; Taxma-spāda- 'Having a brave army'; Vahyaz-dāta- 'Following the better law'; Vištāspa- from *višta-aspa- (see Lex. s.v.) 'Having ready horses'; \textcolor ata-gu- '(Land) having hundreds of cattle' (but see Lex. s.v.); \textcolor ata-vāhara- '(Month) having vigorous spring-time'.
- b. The prior element is appositive to the second:
- Varka-zana- '(Month) belonging to the wolf-men'.
 uvăi-pašiya- 'having self as lord', with adjectival suffix.
- c. The second element is predicate to the prior: Ariyāramna- from *ariya-āramna- 'Having the Aryans pacified'; so to be interpreted because the -na- participles are passive.
- §162. Participial Compound Adjectives, the participle as prior element of the compound governing the second; all the OP examples are personal names:

Dāraya^t-va^hu- 'Holding firm the good'. Viⁿda^t-farnah- 'Finding the Glory'.

Vāya'-spāra- 'Weaving shields', = 'Maker of wicker shields'; unless vāya- is not a participle, but a noun of action (-a- stem), and the name is a possessive adjective (§161.I.b.), 'Having a shield of weaving, = wicker shield'.

- §163. Names of Persons in the OP inscriptions must be divided according to nationalities, which in the main show the linguistic nature.
- I. Names of Persians are far the most numerous; but some show Median phonetics, indicated by a following M in parenthesis:
- a. Names of the Achaemenian dynasty: Ariyāramna-, Artaxšaça-, Aršāma-, Uvaxštra- (M), Kabūjiya-, Kūru-, Xšayāršan-, Gaubaruva-, Cišpi-, Dārayavau-, Bardiya-, Vištāspa- (M).
- b. Names of other Persians: Artavardiya-, Ardumaniš-, Aspacanah- (M), Utāna-, Ouxra-, Dātuwahya-, Dādarši-, Bagābigna-, Bagabuxša-, Marduniya-, Vaumisa- (with -s- which is not Persian nor Median), Vāyaspāra-, Vahauka-, Vahyazdāta-, Vidafarnah- (M), Vidarna-, Vivāna-, Haxāmaniš-.
- II. Names of Medes: Xšaθrita-, Gaumāta-, Taxmaspāda-, Fravarti-, and the Sagartian Ciçataxma-.
- III. Names of other Iranians: the Margian (Bactrian) $Fr\bar{a}da$; the Scythian Sku^nxa ; unspecified $\bar{A}\theta iy\bar{a}bau\tilde{s}na$, $Ar\tilde{s}aka$.
- IV. Names of Armenians: Arxa-, Dādarši-, Haldita-.
- V. Names of Elamites: Atamaita-, Cicixri-, and four which have the appearance of IE names: \bar{A} cina-, Upadarma-, Martiya- (see Lex. s.vv.), which may have been more or less etymologized when transcribed into OP; and Imaniš-, the name assumed by the Persian Martiya as usurping king of Elam, with -maniš- reminding of Haxāmaniš- and Ardumaniš-.
- VI. Names of Babylonians: Akkadian Ainaira-, Naditabaira-, Nabukudracara-, Nabunaita-.
- VII. Uncertain writings, probably corrupt: Xaršādašyā (= Xšayāršā?), Ardaxcašca (prob-

ing' and arša- 'just', and therefore meaning 'Ruling with justice'. But there is no example in which contraction of a short vowel takes place despite the reduced final -t; for another objection, and the proper interpretation of the case-endings, see \$187 and note 2, and Lex.

¹ Xšayāršā is taken by Bv. Gr. \$315 as an -āh- stem

ably = Artaxšaçā), Vašdāsaka, Vahyav^{*}šdāpaya, Hadaxaya.

§164. Personal Names of Iranians are of the usual IE types.

I. The typical IE name consisted of a compound of two stems; such names have mostly been interpreted in 160-162. To these must be added the following, which are of uncertain interpretation: $Ka^mb\bar{u}jiya$ -, $Gaum\bar{u}ta$ - (see Lex. s.vv.).

II. Compounds of which the prior part is an inseparable or a prepositional prefix are the following: hU-vaxštra-, Vi-darna-, Vi-vāna-, Fra-varti-, perhaps hU-tāna-. It is possible that some of these are only shortenings of longer compounds of which these were the prior part, and that they belong under III.

III. Hypocoristics or nicknames were formed in pIE by limiting the compound name to approximately its prior part, to which there might or might not be added a suffix. There are the following probable examples in the OP names: Θuxra-, Bard-iya-, Vahau-ka-, Arša-ka-, Xšaθr-ita, Frāda-, Martiya-

IV. Still other names are appellatives indicating the qualities of the persons, like the reduplicated $D\bar{a}$ -darši- 'Bold'. Possibly hU -vaxštra-, Vi-darna-, Vi-vāna- (given under II) also belong here. Or names may denote occupations, as perhaps in the adjectival derivative, possibly patronymic, Mardun-iya- 'Vintner's son'.

V. Uncertain names: Cišpi- (or Cahišpi-); Kūru-; Dātwahya-; Arxa-, name of an Armenian, of unknown meaning, and probably belonging under III or IV.

§165. Names of Months in OP are adjectives, or substantives as adjectives, modifying the word 'month'; the phrase is always in the genitive. All are compounds of two stems or of prefix + stem, and some end in an adjectival suffix.

With vriddhi in first part: Θāigarci- (etymology uncertain); perhaps in Adu-kanaiša- (etymology uncertain), A-nāma-ka-.

With vriddhi in both parts: Bāga-yādi-.

With vriddhi in second part: Āçi-yād-iya-, Θūravāhara-.

Perhaps with vriddhi in prefix: Vi-yax-na- (radical element uncertain).

Without vriddhi in either part: Garma-pada-, and the restored Varka-zana- (but see Lex. s.v.).

For further details, see Lex. s.vv. and §161.

§166. Names of Places are less likely to be of perspicuous etymology even than names of persons, since names of places often persist even when there has been a change of population and an attendant change of language. The OP place-names include the following types: dahyāuš 'administrative province' and also 'district' of a province; 'city', generic word not given in OP; vardanam 'town'; āvahanam 'village'; didā 'fortress'; kaufa 'mountain'; rauta 'river'. At the first introduction of less-known place names the generic word is regularly given; but it is given with names of provinces only when there is a list of all or several. and is omitted with some larger districts (Kar $m\bar{a}na$, $Vark\bar{a}na$), with cities ($P\bar{a}rsa$, if = 'Persepolis'; Paišiyāuvādā 'Pasargadae'; Hagmatāna 'Ecbatana'; Arbairā 'Arbela'; Bābiruš 'Babylon'), and with well-known rivers (*Ufrātuš* 'Euphrates'; Tigrā 'Tigris'). The place names may be geographically, and to a certain extent linguistically, grouped together as follows:2

I. Indo-Iranian provinces:

Pārsa 'Persis, Persia': including districts Karmāna, Yautiyā; cities Paišiyāuvādā, perhaps Pārsa; towns Uvādaicaya, Kuganakā, Tāravā, Raxā; mountains Arakadriš, Parga.

Māda 'Media': including districts Asargarta (given as administrative province in DPe 15), Kapada, Nisāya, Ragā; city Hagmatāna; towns Kuduruš, Māruš; fortress, Sikayauvatiš.

Parθava 'Parthia': including district Varkāna 'Hyrcania' and towns Patigrabanā, Višpauzātiš.

Harawatiš 'Arachosia': including district Gadutava; fortresses Aršādā, Kāpišakāniš.

¹ The form māhyā is more probably a contracted gen. *māhahyā, to stem māha-, than a loc. māhyā to stem māh-,

¹ Cf. the names of the states of the United States of America; about half of them are derived from aboriginal American languages, and the rest come directly or ultimately from English, German, Celtic, French, Spanish, Latin, Greek, Hebrew, and Indo-Iranian. For the OP place-names which can with certainty or with some probability be interpreted etymologically, see Lex. s.vv. ² This section attempts only to list and classify the nouns and ethnic adjectives used as geographical terms in the OP texts; a complete list of the provinces of the Persian Empire, as given in the OP texts, will be found in JNES 2.302-6, with discussion of the variations. The classification of Yadā DB 3.26, apparently the OP name for

Bāxtriš 'Bactria': including district Marguš 'Margiana'.

Ākaufaciyā 'Men of Akaufaka'; Uvārazmīy and -miš 'Chorasmia'; Gadāra 'Gandaritis'; Oataguš 'Sattagydia'; Dahā 'the Daae'; Maka or ethnic Maciyā; Saka or fem. Sakā 'Scythia' or Sakā 'the Scythians'; Sug(u)da 'Sogdiana'; Haraiva 'Aria'; Hiduš 'Sind'.

II. Elam:

 $ar{U}(v)ja$ 'Elam', including city $ar{G}ar{u}\check{s}\bar{a}$, village $Abirar{a}-du\check{s}$.

III. Semitic provinces:

Bābiruš 'Babylonia': including district Dubāla; city Bābiruš 'Babylon'; town Zazāna; rivers Ufrātuš, Tigrā.

Aθurā 'Assyria and Syria': including district *Izalā*; city *Arbairā*; mountain *Labanāna*.

Arabāya 'Arabia'.

IV. Armenia:

Armina or Arminiya 'Armenia': including district Autiyāra; village Zūzahya; fortresses Uyamā, Tigra.

V. Provinces of Asia Minor and Southeastern Europe:

Katpatuka 'Cappadocia'; Karkā 'the Carians'; Yauna 'Ionia' or Yaunā 'the Ionians'; Sparda 'Sardis, Lydia'; Skudra 'Thrace and Macedonia'.

VI. Provinces of Africa:

Mudrāya 'Egypt' or Mudrāyā 'the Egyptians', including river Pirāva 'Nile'.

Kūša 'Ethiopia' or Kūšiyā 'the Ethiopians'. Putāvā 'the Libvans'.

\$167. Province Names and Ethnics. In certain instances the province name is merely the masculine ethnic, with ellipsis of a masculine noun for 'country'; once it is the feminine ethnic. But more frequently the ethnic is formed from the province name by the -ya- suffix; and the plural of the ethnic thus formed, as well as that of other ethnics, may be used as province name. Once the -ya-ethnic in the singular is used for the province as alternative to the suffixless form. In the accompanying table, the occurrence of the province name and the ethnic in identical form is indicated in the second column by x, and ethnics which in the singular are extant in full only in the late text A?P are indicated by a following *.

To these names may be added those of three large districts which were not governmental provinces: Karmāna, Varkāna, Marguš with ethnic Mārgava; ethnic Pātišwariš, to an unknown place-name; Haxāmanišiya, patronymic familyname to Haxāmaniš; Maguš, denoting a member of the priestly clan of Media.

Of the province names used as ethnics, $B\bar{a}biru\bar{s}$ and $\bar{U}vja$ as ethnics are certainly errors. Of the ethnics in A?P, $K\bar{u}\bar{s}\bar{a}ya$ is probably miswritten for $K\bar{u}\bar{s}iya$; $Gad\bar{a}raya$ for $Gad\bar{a}riya$; \Thetaataguiya for \Thetaataguiya , or misread for \Thetaataguiya , a miswriting for \Thetaataguiya ; Hiduya for Hiduviya.

Province	Same as Ethnic	Fem. as Province	Derivative Ethnic	Pl. Ethnic as Province	Masc. as Province
Aθurā	Donnie	110111100	$A\theta uriya$	as i formee	1 TOVINGE
Arabāya	x*		210ar iya		
Armina	Α.		Arminiya		Arminiya
Asagarta			A sagartiya		217 menerga
$ar{U}(v)ja$	x		$ar{U}(v)$ jiya		
· · · -	А				
Uvārazm-īy -iš	*		$Uv\bar{a}razm^iya^*$		
Katpatuka	x *		77 1	** 1	
			Karka	$Karkar{a}$	
$Kar{u}$ š a			Kūšāya*	Kūšiyā	
Gadār a			Gadāraya*		
O ataguš			Oataguiya*		
v				$Dah ilde{a}$	
Parθava	x			2 4/14	
Pārsa	x				
			Putāya*	Putāyā	
Bāxtriš			v	· · · y · ·	

Province	Same as Ethnic	Fem. as Province	Derivative Ethnic	Pl. Ethnic as Province	Masc. as Province
$Bar{a}biru$ š	X		Bābiruviy a		
Maka			$Maciya^*$	$Maciyar{a}$	
$M\bar{a}da$	X				
$Mudrar{a}ya$	X			$Mudrar{a}yar{a}$	
Yauna	X			$Yaun ilde{a}$	
Saka	X	$Sak\bar{a}$		$Sakar{a}$	
Sug(u)da					
Skudra	x *				
Sparda			Spardiya		
Zraka	x *				
Haraiva					
${\it Harauvati}$ \S		•	Harauvatiya*		
Hiduš			$Hiduya^*$		

CHAPTER V. DECLENSION OF NOUNS, ADJECTIVES, PRONOUNS

§168. Declension in OP. The OP noun, along with the pronoun and the adjective, shows approximately the expected assortment of forms. There are nouns and adjectives with stems ending in -a--ā-, -i--ī-, -u--ū-, -ūh--ah--iš-, -tūr--tar-, -an--man--van--vin--vant-, -t--d--β--s-. Some categories are but scantily represented, and in the discussion of each class all extant forms are listed, except where the examples are numerous.

All the cases found in Sanskrit and Avestan are found in OP, except the dative, which has been lost, its functions being assumed by the genitive form. The ablative has no distinctive form, but has been merged in the instrumental and the locative either by phonetic development or by analogy; except for one form, Bābirauš, which is identical with the genitive, as in Sanskrit. Similarly the accusative plural has become identical with the nominative, either by phonetic process or by analogy, except in the enclitic pronouns which have no nominative form.

Both singular and plural numbers are represented in OP, and there are a few dual forms.

§169. The Case-Endings of -o- Stems in PIE: these are added to the stem-vowel, which is either e or o, and when vowel is added to vowel a contraction results, giving either a long vowel or a diphthong.

I. The endings of the singular: Nom. -s and acc. -m are added to stem-vowel -o-, giving -os -om; and the voc. is the bare stem in -e: Lt. lupus

lupum lupe, Gk. λύκον λύκον λύκον λύκον 'wolf'. The neuter has -m as ending for the nom. as well as for the acc.

Gen. ending -sio is found in Aryan and in Greek, added to stem-vowel -o-: *losio, Skt. tásya, Gk. (Hom.) τοίο, (classical) τοῦ; and with added -s in a few Latin words: eius, Skt. asya; cuius, Skt. kásya, from *q²osio. This ending was original in pronouns only, and spread from pronouns to certain classes of nouns in some languages.

The inst. ended in $-\bar{e}$ and $-\bar{o}$, evidently by contraction of the stem-vowel -e- and -o- with another vowel whose quality cannot be determined. The abl. had $-\bar{e}d$ and $-\bar{o}d$, a similar contraction with an unidentifiable vowel plus a dental consonant, which may have been either t or d; sandhi processes make it impossible to determine its original nature. The loc. ended in -i, added to either stem-vowel: cf. Gk. o'kou and o'kou 'at home'.

II. The forms of the plural number: Nom. pl. ending -es, added to stem vowel -o-, gave -ōs, which remained in Aryan, Germanic (Gothic wulfōs 'wolves'), Oscan-Umbrian (but was replaced by -oi, with pronominal plural-sign -i, in Greek, Latin, Balto-Slavic). Acc. pl. ending -ns, added to -o-, gave -ons. Nom. -acc. nt. pl. in -ā was proper[y a fem. nom. sg. in -ā, with collective meaning. Gen. pl. ending -ōm, contracted with the

¹ For a theory of the origin of this ending, see Sturtevant, Lg. 8.1-10.