Final troubles: Armenian stem classes and the word-end in Late Old Persian

Agnes Korn

COMMENTATIONES IRANICAE

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к 90-летию
В. А. Лившица

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LAUDATIO

IRANICA ANTIQUA

PARTHICA ET MEDIOPERSICA

BACTRICA ET CHORASMICA

SOGDICA

VARIA

Agnes Korn

Final Troubles: Armenian Stem Classes and the Word-end in Late Old Persian[1]

In this paper, I will look at the relation of Armenian and Iranian word-finals. Agreeing with Olsen 2005, I argue that the Arm. stem-classes to which the Ir. loanwords are assigned reflect stem- and word-final vowels in the Ir. source languages, and the differing treatment of some Ir. stem classes is due to dialectal diversity of the sources. The divergence to be explained chiefly concerns Ir. *a*-stems, some of which yield Arm. *a*-stems while others are reflected by Arm. *u*- and *o*-stems. Evidence from Manichean Middle Persian suggests that *-am* yielded a labial vowel in some dialects of Proto-Western Middle Iranian. I argue that this also applied to the dialect that furnished the unexpected Arm. *u/o*-stems, and that this dialect is further characterised by a development of Proto-Ir. **ṛ* to *ar*, thus differing from both Middle Persian and Parthian.

1. Armenian and Iranian stem classes

As might be expected, the numerous Middle Iranian loanwords in Armenian belong to various Armenian stem classes. In a number of cases, this stem class matches the class of the Ir. item, i.e. Ir. *a*-stems yielding Armenian *a*-stems, *u*-stems giving *u*-stems, etc. However, a number of other cases show no such match, so that Ir. *a*-stems are reflected by Arm. *i-, o-* or *u*-stems, etc.

Rather divergent views have been put forward to account for this situation. One opinion holds that, as a rule, Ir. stem classes are reflected by corresponding stem classes in Armenian, exceptions being due to analogy or other factors (cf. Meillet 1936, p. 23). Alternatively, it

[1] I am very grateful to Thomas Jügel for reading a previous version of this article, and to Yutaka Yoshida and Nicholas Sims-Williams for comments. My thanks also go to the Dutch research foundation *Nederlandse Organisatie voor Wetenschappelijk Onderzoek (NWO)* for a *bezoekersbeurs* to Leiden University in summer 2012 to work on the historical grammar of Persian, and to Alexander Lubotsky for arranging the funding. A preliminary version of this paper was presented at the *14. Fachtagung der Indogermanischen Gesellschaft* (September 2012) at the University of Copenhagen, Denmark.

If not noted otherwise, details about stem classes, meanings, etc. of Arm. items follow Olsen (1999, p. 862ff. and/or 2005, with references to previous literature). Underlining refers to stem classes already found in the Arm. Bible (as per Olsen 1999, p. 915f.). Western Middle Ir. items are from DMD and MacKenzie 1986. Abbreviations are found in the list of references at the end of this article.

has been suggested that the "occasional agreement of stem classes" in Iranian and Armenian is due to the reintroduction of stem-final vowels that were preserved in compounds and derivatives (Schmitt 1981, p. 33, following Bolognesi 1954)[2].

The issue has obvious implications for the chronology of sound changes in the word-end in both Armenian and Iranian. If the stem classes are "inherited" from Iranian, as it were, this implies the presence of word-final vowels for the relevant period both in Iranian and Armenian. Accordingly, Meillet (1936, p. 23) argues that, because of the agreement of Armenian and Iranian stem classes, "[l]a chute des finales (...) est elle-même postérieure aux anciens emprunts à l'iranien", and consequently "l'absence d'une finale *u* dans *xrat* en pehlevi et en arménien résulte de deux développements parallèles et indépendants." Conversely, Schmitt (1981, p. 33) assumes that the Arm. loss of finals was already completed before the first layer of Middle Ir. items was borrowed into Armenian.

In her article from 2005, Olsen reviews the issue, pointing out that both opinions just quoted are not quite satisfying as they each need to disregard a substantial part of the evidence. Olsen specifically discusses those Ir. loanwords that are attested already in the Armenian Bible[3] and for which the stem class can be established both on the Ir. and the Arm. side. Table 1 summarises the results.

Agreeing with Meillet's view, there are a number of Armenian stems in *-i, -a* and *-u* matching corresponding Ir. stems. There are also some unexpected *i*-stems, but these could be cases of the later productivity of *i*-stems in Armenian[5].

The most remarkable mismatches, then, are Ir. *a/ā*-stems yielding Arm. *u*- and *o*-stems (in bold face in the table), to which one can add some of the few consonantal stems likewise reflected by *u*-stems. This is all the more striking since *u*- and *o*-stems are rather rare in Armenian[7]. Furthermore, the behaviour of Ir. loanwords is at variance with those borrowed from Greek: among the 123 Greek loanwords found in the Arm. Bible, there are only two stems in *-o* and none in *-u,* all other instances being *i*- and *a*-stems (Olsen 2005, p. 475). One might add that unlike in Greek, *o*-stems do not exist in Iranian

Table 1: Iranian loanwords in the Arm. Bible with known stem classes[4]

Iranian →	Armenian	no. of instances
-i	*i*-stem	8
-u	*u*-stem	6
	i-stem	1
-a/ā	*a*-stem	numerous[6]
	i-stem	19
	***o*-stem**	**20**
	***u*-stem**	**11**
-ah	*a*-stem	3
-ma(n)	*a*-stem	1
	***u*-stem**	**2**
-C	***u*-stem**	**1**
	i-stem	1
-w/v	***u*-stem**	**2**

[2] Similarly, and with more details, Schmitt (1983, p. 98–100).

[3] The main parts of the Arm. Bible (the oldest preserved work in Armenian) date from the beginning of the 5th c. AD (Schmitt 1981, p. 21).

[4] The table is a summary count of Olsen's (2005, p. 476f.) lists of lexemes. Needless to say, not all stem attributions are entirely sure; in some cases, the data are somewhat ambiguous, and in others there is no exact Ir. counterpart of the Arm. item and one needs to compare e.g. an Arm. simplex with an Ir. compound. However, an occasional reattribution would probably not affect the overall picture.

[5] Cf. Olsen (2005, p. 479).

[6] According to Birgit Olsen (p.c.), these include "many words and suffixes".

[7] Cf. Olsen (2005, p. 477): "the o-stems do not seem to be particularly productive in the inherited vocabulary and the *u*-stems are otherwise clearly on their way out", similarly Olsen (1999, p. 859–861).

and *u*-stems are comparatively rare, making the Arm. reflexes in *-u* and *-o* (and maybe even the preservation of Ir. *u*-stems in Armenian) even more marked. Olsen concludes that the distribution of Ir. loans can hardly be due to chance, and appears to be a "strong indication in favour of preserved end syllables in the source language" (Olsen 2005, p. 479).

Olsen suggests that the Arm. evidence speaks in favour of dialectal diversity in the Ir. source languages. She argues that the matching stem-classes are likely to directly reflect the Ir. stem classes in Parthian, and the rather frequent unexpected Arm. *u*- and *o*-stems could be due to influence from Eastern Iranian. This suggestion will be discussed in the next section.

2. The East Iranian hypothesis

The assumption of Eastern Ir. influence in Armenian is obviously difficult for geographic and historical reasons. It is also at variance with the fact that the overwhelming majority of Middle Ir. loans in Armenian is undoubtedly from Western Iranian. Nevertheless, Eastern Iranian has been adduced to explain some items that are otherwise unaccounted for[8]. To bridge the geographical gap, it has been argued by Henning and others[9] that such influence could have reached Armenian via an Eastern Ir. component within Parthian (called "Parnian"), so that Parnian would be the source for Arm. words "whose matches are otherwise only known from Eastern Ir. dialects" (Henning 1958, p. 93).

This line of argument evidently depends on the (un)availability of a given item in Western Iranian and thus on the contingencies of what is attested in the texts; and new finds are liable to change the picture. The next subsections will thus review the Sogdian material presumably paralleled by Armenian material which Olsen 2005 lists to support the assumption of Eastern Ir. influence in Armenian.

2.1. Among the Arm. lexical items with possible Sogdian origin mentioned by Olsen (2005, p. 478), three can in fact be derived from Western Iranian.

• Arm. *pašar* (*o*-stem) "provisions (Proviant)" has been compared to Sogd. "*pšʾβr*". However, Sogdian shows S *pyšʾʾβr*, M *pšʾβr*, B *pšʾ(ʾ)βr*, thus perhaps *pišāβar*[10]. Moreover, an Elamite correspondence (*ba-šá-ba-ra*, *ba-iš-šá-ba-ra/ráš*) has been found[11], suggesting the presence of the word in Western Iranian. An input **pasča-ā-bara-* "the thing delivered, provisions"[12] would yield the early Middle Ir. forms SWIr. **pasāβar* and NWIr. **pašāβar.*

[8] Thus already Meillet (1912, p. 247): "On sera donc conduit à se demander si certains mots arméniens, d'aspect iranien, mais dont on n'a pas signalé l'équivalent dans aucun dialecte iranien, ne seraient pas empruntés à ces parles du Nord [i.e. Sogdian etc.]", mentioning Arm. *karmir* (see Section 2.1 below); a similar position is found e.g. in Benveniste (1964, p. 5).

[9] Thus also Olsen (1999, p. 861) and Schmitt (1983, p. 85).

[10] Thus Henning (1936, p. 63), quoting B *pšʾʾβr*, M *pšʾβr*, S *pyšʾʾβr*. The view that Arm. *pašar* "excludes" Sogd. *-i-* (Szemerényi 1970, p. 419, following Henning 1965, p. 246 n. 32) appears to be starting at the wrong end.

[11] Hinz (1975, p. 184).

[12] Thus the suggestion of Weber (1975, p. 92–94), who notes that Niya Prakrit *pacevara* (Ir. loanword) confirms the derivation from **pašča°* because *c̄* represents **sč* or **šč*. Earlier etymologies, which do not seem preferable, include: [1] a relation to Av. *piθβā-* "meal" (GMS, p. 46 §298, following Henning 1936, p. 63 ad 523), but **θw* > Sogd. *š* is withdrawn by Henning (1965, p. 246 n. 32); [2] **paθya-* "[food] for the road" (Burrow 1937, p. 102), leaving the rest of the word unclear; [3]

The latter form would seem to match Arm. *pašar* at least just as well as, or even better than, the Sogd. one[13].

• Arm. *mirg* (*o*-stem) "fruit", which has been compared to Sogd. *mγδ'k*, could just as well be linked to Parthian *miγδ, miγδag, miγδēn*. The sequence of consonants required for Armenian (**miδγ*) could perhaps be present in Persian, if NP *mēwa*, MPM *mēw* is "< **mēγ* from **maδγ* (or *miδγ* ?) with metathesis" (Henning 1947, p. 56)[14].

• Arm. *čakat* (*u*-stem) "forehead" corresponds to Sogd. *ck't*, but it also has a Western Ir. counterpart in Middle Persian *čagād*, New Persian *čakād*[15].

2.2 Two other items are unlikely to be from Sogdian for other reasons.

• Arm. *margarē* (*i*-stem) "prophet" has been compared to Sogd. *m'rk'ry* and the latter derived from **manθra-kāra-ka-*[16]. However, recently discovered evidence militates against this comparison: the Ir. borrowings found in the "Caucasian Albanian" (CA) manuscripts[17] include *marġaven* "prophet", implying (Old Ir.) **g* (as indeed also suggested by Armenian), not the **k* required for Sogdian. As argued by Gippert (2005; 2011, p. 7), the Arm. and CA words are likely to contain *marg* "bird" and the Ir. verb "see", thus "birdwatcher, augur": CA would combine "bird" with the Ir. present stem **wain-* and Armenian would show **dai-*, which furnishes the Ir. past stem of the same verb (thus Ir. **marγa-wēn* / *-δē*). Middle Ir. **marγ* "bird", which is also found in Arm. *siramarg* "peacock" and *loramarg* "quail", must come from a dialect differing from both Persian (MP *murw*) and Parthian (*murγ*) in showing an output *ar* from Proto-Ir. **ɣ* (Av. *mərəγa-* "bird", OInd. *mṛgá-* "wild animal") vs. Persian and Parthian **ɣ* > *ur* in labial context[18]. With the discovery of the CA word, Sogd. *m'rk'ry* is not a cognate of the item borrowed into Armenian.

• Arm. *karmir* (*o*-stem) "red" vs. Sogd. *krm'yr*[19] will be the object of a separate study, but for the present purposes, it is to be noted that it is likely to be related to OInd. *kṛ́mi-* "worm"

**paθyā-bara-* "to be carried on the road" (Bailey 1946, p. 795); [4] **pati-ā-bara-* "Zufuhr > Vorrat [supply]" (Szemerényi 1970, p. 418f.). For the proposals [2]-[4], it is questionable whether **θy* would give *š* in Sogdian, for which there is apparently no example (while there is one for *θi* > *š*, Henning 1936, p. 63, not withdrawn 1965, p. 246 n. 32, GMS, p. 47 §302). For [4], Szemerényi (1970, p. 419) assumes that OP **pašyābara-* (with the OP development of **θy* > **šy* > *šii* > post-Achaemenid *š*) "would seem to satisfy all the attested forms", thus apparently assuming a Persian borrowing in Parthian, Sogdian, etc. For Elamite *ba-šá-ba-ra* etc., Weber (1975, p. 92–94) assumes a borrowing from OP **pasābara-*. A NWIr. form is indeed unlikely as input for the Elamite word since Median appears to preserve *šč* (cf. note 52).

[13] The reason for the discrepancy of Ir. **-āβa-* vs. *-a-* in Arm. *pašar* is unclear in any event; this is not the Persian change of **āwa* > *ā* (for which see 3.3, 5.2), which affects Old Ir. **w* (not **b*).

[14] The word is apparently a *Wanderwort* (Aramaic, Hebrew *migdā*, Syriac *mayδā*, etc.), and it is unclear whether it is originally Iranian, Semitic, or from another source, see Henning (ibid., whence also the other details).

[15] Cf. MacKenzie (1986, p. 21), Hübschmann (1897, p. 186) and also Olsen (1999, p. 892).

[16] Thus various authors since Salemann (1913, p. 1129–1131), cf. Gippert (2005, p. 155).

[17] "Caucasian Albanian" is a native Caucasian language and a predecessor of modern Udi. See the edition Gippert et al. 2009, and see Gippert 2011 for a survey on loanwords in this language.

[18] Cf. also Gippert (1993/I, p. 194f.) on *siramarg* (inflected forms: *-ac'*, *-ōk'*) and Gershevitch (1989, p. 117f.), Bailey (1930, p. 60f.) and Bolognesi (1960, p. 25–27, 53f.) on *marg* and on Arm. words with *ar* for Proto-Ir. **ɣ*. Bailey does not pronounce on conditions or dialectal origins of *ar*.

[19] Thus the majority orthography. Other orthographies include one occurrence of C *qyrmyr* (ed. Sims-Williams 1985, p. 161, text 87 l. 4) and S *krmyr* in all instances of the word in a "Turco-Sogdian"

and to designate the dye produced from scale insects (Coccoidea)[20]. Classical sources as old as the 1st c. AD suggest that the "Armenian red" produced in the Ararat valley was famous already in antiquity[21], and Arabic lexicographers understand *qirmiz* as referring to the Armenian dye[22]. So I assume that Arm. *karmir* originates from the region around the Ararat, and that the language furnishing it was an Ir. variety of the type that shows Proto-Ir. **ɣ* to *ar* and which also provided Arm. *marg* "bird" just mentioned.

• The remaining item, *kari* "very", does match Sogd. *kʾδy* and does not seem to have an alternative Ir. connection at present, but it could also be an inherited word[23].

While other authors have adduced additional items to support an Eastern Ir. connection[24], the discussion above intends to highlight the problems inherent in such an approach, relying as it does on an argument *e silentio*, the absence from other Ir. languages alone being taken to indicate an Eastern Ir. origin[25].

2.3. For the field of phonology, Olsen (2005, p. 478f.) argues that some Arm. items unexpectedly show *j* [dz] instead of *ǰ* [dž] in the position after *r* and *n*, and compares the change of *č, ǰ* to *c, j* [ts, dz] in some Eastern Ir. languages. However, in those Eastern Ir. languages that show the change, viz. Khwaresmian, Khotanese and Bactrian (Sogdian does not), the change is not limited to the position after *r* and *n*. Conversely, [dz] for [dž] in the required context is seen in Manichean MP (besides variants with [dž]), e.g. MPM <pnz> *panz* "five" vs. *panǰ* (MPM <pnc/j>, MPZ <pnc>, NP *panǰ*), etc. There are also some dialects of Zazaki and of Kurmanji (and of Azeri Turkish) with a general change of [tš, dž] to [ts, dz], but it is of course unclear how old the phenomenon is.

For a connection of Armenian to Eastern Ir. phonology, one might also like to see evidence for the typically Eastern Ir. lenition of word-initial voiced stops, i.e. examples where Old Ir. *#b,d,g-* is reflected by Eastern Ir. *#β,δ,γ-*, yielding Arm. *v-* (Ir. *β-* < **b-*) or *(e)r-* or *ṙ-* (Ir. *δ-* < **d-*)[26]. Instead, Armenian regularly renders Western Middle Ir. phonology, i.e. preserved word-initial voiced stops, and the other Caucasian contact languages show the same

document (Document A in Sims-Williams / Hamilton 1990, p. 24, 21 instances) and once in a Buddhist text which otherwise has *krmɣr* (ed. Benveniste 1940, p. 156, text 22 l. 8).

[20] Cf. e.g. Maciuszak (1996, p. 30). For an up-to-date account of scale insect products, see Łagowska / Golan 2011; for historical dyes in general, see Cardon 2007.

[21] Cf. Donkin (1977, p. 849–853), Kurdian 1941 and the survey in Forbes (1987, p. 101–107).

[22] Cf. the quotes in Dehxodā (XXXVIII, p. 230) and Lane (VII, p. 2519).

[23] It is qualified as "indigenous or Iranian" by Olsen (1999, p. 449), and de Lamberterie (1982, p. 46) favours an inner-Armenian explanation.

[24] Thus e.g. Arm. *baw* "enough" mentioned by Schmitt (1983, p. 85); Benveniste (1933, p. 32f.) connects it to Av. *būiri-* "abundant", OInd. *bʰūri-* and MPZ <bwndkʾ> "*bavandak*" (*bowandag* in MacKenzie 1986, p. 19, cf. also Olsen 1999, p. 261), thus not entirely without Western Ir. connection.

[25] Note that is is only the presence in Eastern Iranian and absence from Western Iranian that has been taken as evidence for such Eastern Ir. borrowings; there are (to my knowledge) no Arm. items that would be Eastern Iranian on account of their phonological or other features. This situation is different from the one described by Schmitt (1983, p. 109), who rightly points out that the absence from attested Iranian of a given word does not preclude its being borrowed into Armenian; there are a number of such instances that are "undoubtable on account of their phonology", so the objection of *argumentum e silentio* is not justified here.

[26] Evidence for word-initial *g-* > *γ-* is rather not to be expected, as there is no matching Arm. sound for *γ*, so that *γ-* would perhaps be rendered by *g-* (as is Syriac *γ*, Hübschmann 1897, p. 286).

picture. Examples include Arm. *bazmakan*, CA *bazmacown* "dinner guests" (WMIr. *bazm* "meal"); CA *bamgen* "blessed" (WMIr. **bāmgēn*); Arm. *dew* (*a*-stem), CA *dēw/v*, Georgian *dev-i* "devil, demon" (WMIr. *dēw*)[27]; Arm. *darman* (*o*-stem) "food" (WMIr. *darmān* "medicine"), etc. Conversely, Middle Ir. word-internal *-β* (< Old Ir. **-b-*) is regularly rendered by *v* / *w*, and *-δ* (< Old Ir. **-d-*) by CA *d'* and Arm. and Georg. *r*, as e.g. in CA *bod'var*, Arm. *bowrvaṙ* (*a*-stem), Georgian *bervar-i* "censer" (WMIr. **bōδi-βar*, OIr. **baudi-bara-* "perfume-bearer")[28]. This feature as such of course does not imply anything in terms of Western and Eastern Iranian, as the lenition of word-internal voiced stops is "common throughout Iranian" (Sims-Williams 1996, p. 650).

2.4. More in the morphological centre of our topic, Olsen (2005, p. 478f.) argues that the unexpected Arm. stems in *-u* and *-o* for (Old) Ir. *a*-stems might be due to Eastern Ir. influence since Sogdian shows an accusative in *-u*, and Avestan has a nominative in *-ō.* The question is, though, whether this would be sufficient input to effect the mismatching stems since in attested Sogdian, only some stem classes show an acc. in *-u* or *-o* while others do not[29], and the Avestan nom. *-ō* has no counterpart in Sogdian (where e.g. the m. light stems have *-i*). In Bactrian, the direct case ends in <-o>, which marks the word-end in the preserved manuscripts[30], but it is likely that it reflects a phonetic reality at some point[31]. However, evidence for Bactrian influence in the Armenian lexicon has not been advanced yet.

3. Unexpected Arm. *u-, o*-stems revisited

If evidence for Sogdian or other Eastern Ir. influence thus turns out to be somewhat weak, the question remains how then to account for the divergence in the Arm. evidence pointed out by Olsen 2005. As it is likely that the source for the main group, Ir. stems in *-a* yielding Arm. *a*-stems, is Parthian, the unclear point is which source has provided the group in *-u/o* in spite of the marked status of these stems in Armenian (cf. Section 1.).

This merits another look at the Arm. items whose stem class is so far unaccounted for in order to check whether something can be said about their potential dialectal origin[32]. In doing so, I will compare some Sogd. material, but will disregard words such as *zēn* "weapon, armour" whose form would be (or is) the same in Sogdian and Western Middle Iranian.

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[27] All these examples from the list in Gippert (2011, p. 4). For more Arm. examples, see Hübschmann (1897, p. 113–147) and Schmitt (1983, p. 87, 101).

[28] Cf. Gippert (2011, p. 7; 1993/I, p. 225, 345f.). The *-ṙ* of *bowrvaṙ* has also been interpreted as pointing to an input form different from plain *°*βar-*, thus possibly implying Sogd. *βwδβrn* as a source (Benveniste 1945, p. 70f.), but, as pointed out by Gippert (2007, p. 103 n. 18), the *-ṙ* may be due to a dissimilation and/or to influence by popular etymology from *vaṙel* "to burn". One might add that *rn* otherwise yields Arm. *ṙn*, so, if *bowrvaṙ* did imply a form with **rn*, it might rather be one with the Persian change *rn* > *rr* (cf. Korn / Durkin-Meisterernst 2009, p. 12–15).

[29] Cf. Yoshida (2009, p. 288f.), Sims-Williams (1990, p. 277, 280, 282ff.).

[30] Sims-Williams (1989, p. 348).

[31] Cf. Lazard (1984, p. 225f.).

[32] If not noted otherwise, the Ir. protoforms and cognates given for the Arm. words are from Olsen (2005, p. 476f. and/or 1999, p. 862ff.). Many Arm. words show forms belonging to different stem classes, chiefly by way of analogy to more common patterns.

3.1. Turning first to the Ir. *a*-stems rendered by Arm. *u*- and *o*-stems, a group of items springs to mind that contain Proto-Ir. **θr* reflected by Arm. *(r)h*:

• *kah* (*u-/i-*stem) "vessels, household items" (**karθra-*);

• *pah, parh-* (*u-/o-/a-*stem) "watch, ward" (**pāθra-*, MPM *pāhr*, *pās*);

• *mehean* (*o-/a-/i-*stem) "temple; idol" (Ir. **miθriyāna-*).

Arm. *h* and *rh* is the usual reflex of NWIr. (Parthian) *hr* (i.e. Proto-Ir. **θr*)[33]. Bactrian has the same output for this consonant cluster (υρ / ρ), while Sogdian shows *θr, rθ* and *š*[34].

These words thus appear to come from a Western Ir. source. Their reflecting *-u* or *-o* suggests input forms such as ***pahru*. As I will argue in Section 4., this could be the output of Old Ir. *-am* (acc.m. and nom./acc.n.) in some Proto-Middle Western Ir. dialect, which would thus share the Sogdian development mentioned by Olsen 2005.

3.2. If the result of Old Ir. *-am* was *-u* in some dialect of Proto-Middle Western Iranian in the case of the *a*-stems, it is likely *a priori* that *-am* occurring in other stem classes was treated in the same way.

• This would apply to *sov* (*u-/o-*stem) "hunger" (MP *suy*, MP/NP *šuy*, Balochi *šud*), whose acc. ends in *-am* (Av. *šuδəm*). Olsen (1999, p. 907) assumes an assimilation of *suy* > **suw*, and a change **suwu* > **sowu*. The *s*- is noteworthy, however[35]. If Klingenschmitt (2000, p. 208ff.) is right in assuming that *s* is the output of PIE **ḱs* / **ǵs* regular (only) for SW Iranian, Arm. *sov* would show the Middle Persian form (PIE **ǵsud^h* vel sim.; OInd. *kṣúd^h*-)[36].

• *gam* (*u*-stem in Faustos; used in *or gam mi* "whosoever") vs. Av. *gāman-* (nom./acc. *gāma*) "step (Schritt)" (MP *gām*) might suggest that neutre *man*-stems were treated in the same way as *a*-stems, implying an intermediary ***gāmu*. Depending on the chronology of changes in the word-end, ***gāmu* would either have replaced **gāma* by analogy to cases like ***pāhru* (if word-final *-a* was still preserved at the stage of ***pahru*); alternatively, the analogy may have operated at an earlier stage, changing *gāma* to ***gāmam*, which then would have developed like an *a*-stem.

3.3. For other consonantal stems the Arm. stem vowel implies the addition of something to the stem-final consonant.

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[33] Examples include *šnohr* (*a-/i-*stem) "thanks" (Av. *šnaoθra-*), *Vahagn* (Av. *vərəθraγna-*), *Šapu(r)h* (MP *Šāpuhr* < **°puθra-* "son"), cf. Hübschmann (1895, p. 204f., thence the examples), who adds that the reflex by Arm. *hr* is likely to be later (Sassanian, thus also Schmitt 1983, p. 80f.). Inherited **tr* gives Arm. *-wr-* (Meillet 1936, p. 32).

[34] Examples: Bactrian: γωυριγο, °γωρο "family" (*gauθra-), cf. Wendtland (2009, p. 177f.), Sims-Willams (1989, p. 348); Sogdian: *°pšyy* "son"; B, M *p'ðr* /pāθr/, M *p'rδ* /pārθ/, B, M, S *p'š* /pāš/ "respect, attention" (**pāθra-*); S *myδr*, M *myš* "Mithra", cf. GMS (p. 46f. §299, p. 29 §185, p. 67 §440) and Wendtland (2009, p. 177f.).

[35] Sogdian has *šyδw*, but it does not seem entirely sure whether this does mean "hungry". The data in Gharib (giving the meaning "hungry ?" with the protoform **šayaθa*) appear to be a misunderstanding of Livšits (1962, p. 138), who quotes two entirely different explanations of the word, one (by Frejman) a relation to "to live, stay" (thence Gharib's protoform), the other one (by Abaev, followed by Livšits in his translation of the relevant passage) giving the Av. and Bal. words for "hunger".

[36] Cf. EWAia I, p. 434. The relation here (MP against Parthian and all of attested Old Iranian) would be similar to MP *sōr* vs. Pth., NP, Balochi *šōr* "salty earth" (cf. Korn 2005, p. 92 for more discussion). See Section 5.2 for further discussion.

• Whatever the exact Ir. origin of Arm. *zawr* > *zōr* (*u-/a-*stem) "army, troops" (Av. nom./acc.n. *zāuuarə*, Pth. *zāwar*, MP *zōr*)[37], Armenian would appear to presuppose **zāwaru*, with an *-u* added to /zāwar/, or, if a stage ***gāmam* is to be assumed for the previous item, ***zāwaram*.

• Somewhat more troubling is *žam* (*u-/a-*stem) "time, hour". Western Iranian has MP *zamān(ag)*, Pth. *žamān* (whence Arm. *žamanak*, if this is not an Arm. formation based on *žam*)[38]. Arm. *žam* appears to presuppose an Ir. form (***žamu*), which has not been found yet.

For Arm. *u*-stems ending in *w* / *v*, Olsen (2005, p. 477) cautiously sets up a separate category because the word-final could have influenced the stem vowel, effecting a labial stem class. This includes *sov* (see 3.2) as well as *naw* (see 3.4) and *armaw.*

• In the case of *armaw* (*u-/o-*stem) "palm tree, date" (NP *xurmā*), it is not clear which inflection class it might have belonged to if indeed the word was present in Old Iranian at all. Since dates are *a priori* unlikely to figure in the inherited vocabulary, it is surely safer not to base any conclusions on this word[39].

3.4. Ir. *ā*-stems are not frequent among the mismatching Arm. stems.

• *kʿen* (*u-*stem) "hatred, animosity" (Av. *kaēnā-* "revenge") is the only Old Ir. *ā*-stem reflected by an Arm. *u*-stem[40].

• *naw* (*u-/a-*stem) "ship" could be a second example of an Ir. *ā*-stem: Sogd. $n'w^{H}$ appears to agree with Indic forms in implying **nāwā-*[41], i.e. PIE **neh₂u-* seems to have been widely used with a suffix *-ā* in Indo-Iranian[42]. *naw* might thus reflect two different layers of Ir. loanwords, one the *ā*-stem itself, the other one the rendering of such stems by Arm. *u*-stems as also seen in *kʿen*[43]. This assumption appears to be more straightforward than that by Olsen (1999, p. 896f.), who suggests that the *u*-stem *naw* "may have passed through the stage of an *i*-stem like inherited terms such as *kov, kovow* 'cow'."

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[37] Olsen's suggestion (1999, p. 881f.) that all Ir. forms could come from the same protoform (i.e. MP and Pth. both from **zāwr̥* to avoid the MP change of **āwa* > *ā*) seems unnecessary to me in view of other words showing parallel differences between MP and Parthian (cf. Korn 2009, p. 202 n. 29).

[38] Cf. Olsen (1999, p. 301, 883). There is also *žaman* "timely", but this is probably an inner-Armenian formation from *žam* (Olsen 1999, p. 289, 296, cf. also Hübschmann 1897, p. 156 on these forms). The Sogd. forms point to a form such as **žamanu* (cf. the variants given by Gharib: B, S *z/ẓmnw(h)* (dir.), *zmny(h)*, *-(w)yʾ*, *-yyh* (obl.); C *žmn(w)*.

[39] Henning (1950, p. 645) notes that the Pth. form is *amrāw* as seen in "Man. *ʾmrʾw*, against Arm. *armav*", and thus reads amrāw for the Arameogram T^{g} in the *Draxt ī Asūrīg* while Maciuszak (2007, p. 65, 125, 184) reads (the NP form) *xormā* on account of <hwlmʾk> occuring some lines later in the text. *ʾmrʾw* is found in the unpublished fragment M 171 II R 10 (Desmond Durkin-Meisterernst, pers. comm.). The relevant part of the fragment is partially broken off, though (see the photo at http://www.bbaw.de/forschung/turfanforschung/dta/m/images/m0171_seite2.jpg).

[40] As a rule, *ā*-stems do not have a labial vowel in their inflection in Sogdian (nor in Bactrian or Khwarezmian), but analogical forms in *w* are found (Yutaka Yoshida, p.c.).

[41] For this orthography of the (originally f.) word-final Sogd. -h, see Korn (2011, p. 54).

[42] Cf. EWAia (I, p. 59). No Old Ir. attestations are available of the word for "ship" unless it is contained in *nauuāza-* "boatman" (see EWAia II, p. 38, but note that Av. *nāuuiia-* is unlikely to be a derivative of "ship", see Widmer 2007); only Khotanese *nau* possibly reflects the diphthong stem (Emmerick 1968, p. 294). Schmitt (1981, p. 54) considers Arm. *naw* as possibly inherited while Olsen (1999, p. 896f.) says that inherited consonantal stems are unlikely to yield *a*-stems.

[43] For Ir. items borrowed twice into Armenian, cf. Schmitt (1983, p. 76) and Korn / Olsen (2012, p. 215f.).

In view of these examples, it seems possible that *ā*-stems also coalesced with those in *-a* in Proto-Middle Iranian, either by a loss of length distinction between *-am* and *-ām* or by a labialisation *-ām* > *-*u*.

3.5. In view of the rarity of Arm. *u*- and *o*-stems (cf. Section 1.) it seems worthwhile to look at those reflecting Ir. *u*-stems as well.

• Comparable to the items in 3.1, the *h* seen in *gah* (*u*-stem) "throne" (MP/Pth. *gāh*) vs. OP *gāθu*- presupposes a Western Ir. form (vs. the *θ* in Sogd. B, M *γʾδwk*, i.e. /γāθuk/)[44].

• *mah, marh* (*u-/n-*stem) "death, pestilence" (**mr̥θyu*-, Av. *mərəθiiu*-) is at variance with the attested Middle Ir. words for "death", viz. with the labial vowel in Pth. <mwrt> (*murt*), Sogd. B, M *mwrδw* /muʳθú/, B *mwrtk(y)*)[45], and also with MP *marg*, Sogd. B, M, C *mrc*. Conversely, a derivation from the dialect which (as postulated in Section 2.1) shows **r̥* > *ar* would yield Arm. *ma(r)h*[46]. In order to avoid any palatalisation, one might consider a derivation from **mr̥θu*-.[45]

• If *part(kʔ)* (*u*-stem in Agathangelos) "debt", *part ē* "it is right / necessary / fitting" is from Ir. **pr̥tu*-[47], it could be another instance borrowed from the dialect that shows **r̥* > *ar*. However, it seems preferable to derive the word from a paradigm **partu*- / **pr̥tu*- "debt", the full grade of which would be seen in Sogd. *pwrc*, Bactrian πoζζo "debt" (**partu-čʼ*-) and the zero grade in Sogd. *ptw*, Bactrian πορδο "proper"[48]. Arm. *part(kʔ)* can thus be from Ir. **partu*-[49].

3.6. While it is of course possible *a priori* that an occasional Eastern Ir. loanword may indeed have travelled westwards so as to reach Armenian, the items surveyed in this section present a Western Ir. picture, agreeing with the majority of Ir. borrowings in Armenian. It does transpire, though, that there is (further) evidence of a Western Ir. source language that shows a change of **r̥* > *ar*, and which for reasons laid out in Section 2.1 needs to be assumed as another source of borrowings into Armenian anyway. The question arises whether data can be found to confirm such a source for the unexpected stem-final labial vowels.

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[44] In borrowings from Syriac and Greek, *θ* is rendered by Arm. *tʿ* (Hübschmann 1897, p. 286, 326). For OP gāθu-, see Hübschmann (1895, p. 195, 203); Brandenstein / Mayrhofer (1964, p. 121). Bactrian also shows *θ reflected by *h* <υ> (cf. Wendtland 2009, p. 176).

[45] For the Sogd. and Pth. words, see Korn (2013, p. 101f.), where I argue that Sogd. mwrδw and Pth. <*mwrt*> derive from a paradigm **mr̥tu*- / **mr̥θw*-, with **mr̥θw*- yielding the Pth. form and **mr̥θu*- with generalised **θ* Sogd. *mwrδw*. Note that a derivation of mah from (Ir.) **mr̥θyu*- (cf. Bolognesi 1960:17–19) is faced with the difficulty that there does not appear to be another Arm. example where Ir. **θy* is mirrored by *h*. — The Sogd. output of **θy* is not quite clear (cf. note 12).

[46] Thus also Bolognesi (1960, p. 26).

[47] Thus apparently Olsen (2005, p. 477), who compares Av. *pərətu*- "bridge" (but in Olsen 1999, p. 904, part is derived from PIE the same paradigm's **pertu*-, i.e. Ir. **partu*-; cf. also Korn 2013, p. 100f.).

[48] Cf. GMS (p. 21, 73 §§147, 487), BD II, p. 257. This stem (on further details see Benveniste 1969, p. 181–185) would be homophonous to PIE **pértu*- / **pr̥tu̯-É*- "bridge" (on which cf. Korn 2013, p. 100f.), but derived from two different roots PIE **per*, viz. "cross (especially water)" (πείρω, Vedic *píparti*) and "make equal" (Latin *pār, paris*, cf. LIV p. 472f.; Cheung 2007, p. 293f.).

[49] Thus Hübschmann (1897, p. 228), followed by Henning (1936, p. 89 ad 763). Henning quotes further Sogd. words, and Gershevitch (1959, p. 245) adds a MP <ʾpwrdg> "guilty", which would show that the word is not entirely lacking in Western Iranian.

4. Evidence for word-final *-u* in Western Iranian

4.1. Manichean Middle Persian data

As shown by Sims-Williams 1981, there is in fact some interesting evidence that there was a word-end in *-u* in a stage that we may call Proto-MP[50]. In contrast to Parthian, Manichean Middle Persian orthography shows a <w> at the end of words to which a clitic is suffixed, as summarised below. Whether this actually was *-u* or *-o* is of course unclear, but for reasons of simplicity, I follow Sims-Williams 1981 in noting "*u*".

• The 3rd person enclitic pronouns usually have the form MPM sg. *-š* <-š>, pl. *-šān* <-š'n> after a vowel and *-iš(ān)* <-yš('n)> after a consonant. However, in combination with a past stem, one does not find *-t/d-iš(ān)-*, but *-u-š, -u-šān*[51], thus e.g. <hyštwš'n> *hištušān* "they abandoned", suggesting that the past stem ended in *-u* at some point.

Sims-Williams (1981, p. 175f.) further suggests that there was a generalisation of the nom./acc.n. **-am* in the past stems so that the form in *-u* became used independent of any agreement with the logical object in ergative sentences (the X in "they abandoned X"), increasing the frequency of such past stems ending in *-u*.

• Similarly, the MP particle "also" is usually *-z* after vowel and *-iz* after consonant. However, MPM <-wz> *-uz* is found e.g. in *kas* "someone", which, in combination with "also" gives <qswc> *kasuz*; similarly *tis* "something" yields <tyswc> *tisuz* (besides <tysyc> *tisiz*). To account for these forms, which are usually derived from **kas-čid*, **čis-čid*, respectively, Sims-Williams (1981, p. 173) suggests that °*čid* was replaced by °*čim* (cf. Av. °*čim*)[52], yielding *kas-čim*, **čis-čim*; and the **-im* would then have changed to *-u* just as did **-am*.

Both **-am* and **-im* yielding an orthography <-w> suggests that these coalesced at some point. It seems likely, then, that there was an intermediary stage **-əm* for both, which was subsequently labialised to **-um* before the **-m* was lost, thus **hṛštam* > **hiršt*ə*m* > **hiršt*u*m* > **hištu* and *°*čim* > *°*čəm* > *°*čum* > *°*ču*.

4.2 Late Old Persian evidence

Pointing into a similar direction might be some "incorrect" late Old Persian forms. It is clearly beyond the scope of this article to review the instances collected and discussed by Schmitt (1999, p. 59ff., summarised p. 112–118), but some of the data relevant for word-final syllables merits a look here. Evidently, these are difficult to interpret, particularly as the number of instances for any phenomenon is so limited. It is thus often unclear what exactly should be considered as an occasional error, and what may count as evidence for a phonological

[50] I borrow this term from Schmitt (1999, p. 59).

[51] Examples with the 1st sg. are ambiguous as the connecting vowel *u* may be due to the labial *m* (<-*wm*>), and there are no examples with the other clitics in relevant combinations (Sims-Williams 1981, p. 175 n. 43). According to Sims-Williams (1981, p. 172), the 2nd person is ambiguous as well since *-ud* may have been adjusted to *-um*.

[52] The assumption of the MP forms going back to °*čim* implies a difference between the predecessor of MP and attested Old Persian, since the latter has °*čiy* < *°*čit* (cf. Hoffmann 1976, p. 635 n. 23) in all relevant forms. However, all instances of this °*čiy* imply a sound-change **sč* > "Median" *-šč-* (e.g. *kaščiy* "someone"), not the typically OP output *-s-* (MP *kas*; *pas*, OP *pasā* vs. Av. *pasča*), cf. Kent (1953, p. 9a, 37b), Brandenstein / Mayrhofer (1964, p. 138) and note 12. Another variety of OP could thus have had °*čim*.

change or for changes occurring on the morphosyntactic level. In view of the small amount of evidence, it is also unclear how many people were involved in the production of the relevant inscriptions at all, and what the relation of the latter to the spoken language was[53].

Nevertheless, and with due caution, the data seem to imply that word-final vowels and diphthongs were lost by this stage (Schmitt 1999, p. 113). For other word-finals, <-a-m> (apparent *-ām*) appears in positions where one expects a different vowel before the *m*. All instances come from three inscriptions, two from Arthaxerxes II (inscriptions from Susa, A^2 Sc and Sd) and Artaxerxes III (inscription from Persepolis, A^3 Pa), of which A^2 Sd and A^3 Pa are preserved in several copies[54]:

• <-a-m> (apparent *-ām*) for expected <-m> *-am*: <a-k^{u}-n-v-a-m> *akunavām* (A^2 Sd, l. 3) vs. regular (thus also in another copy of the inscription) <a-k^{u}-u-n-v-m> *akunavam*; <p-r-d-y-d-a-m> (A^2 Sd, l. 3) "restoring" an apparent *par(a)dayadām* for expected *<p-r-i-d-i-d-m> < **pari-daidam*)[55]; <a-s-m-a-n-a-m> *asmānām* (A^3 Pa, l. 3f.) for *asmānam* <a-s-m-a-n-m>;

• <-a-m> for expected *-ǐm* is found in several instances of the inscription A^3 Pa, which has <b-u-m-a-m> (apparent *būmām*, l. 2) for <b-u-m^{i}-i-m> *būmīm* "earth"; <š-a-y-t-a-m> (apparent *šāyatām*, l. 5) for <š-i-y-a-t-i-m> *šiyātim* "joy"; <a-θ-g-<i>-n-a-m> (*aθangainām*, l. 29f.) for <a-θ-g-i-n-i-m> (A^2 Sc, l. 6) *aθangainīm*.

Schmitt (1999, p. 113f., 117) also notes "incorrect" uses of some pronouns in a couple of other inscriptions, viz. the use of m. or n. forms instead of the f. one. Thus, instead of f. <h-y-a> *hayā*, the inscription attributed to Ariaramnes at Hamadan (Am H, l. 6) shows <h-y> *haya* (nom.m.)[56]; and instead of f. <t-y-a-m> *tayām*, several inscriptions show nom./acc.n. <t-y> *taya* (D^2 Hb, l. 27; A^2 Sc, l. 6; Am H, l. 5; As H, l. 13)[57]. Conversely, there is f. <i-m-a-m> *imām* (A^2 Sc, l. 4f.; A^2 Sd, l. 3) instead of nom./acc.n. <i-m> *ima*[58]. However, it seems difficult to know whether these are really issues of word-finals, or perhaps rather changes in the morphological system, including attempts to (hypercorrectly) return to a previous stage of the language[59].

The difficulties of the interpretation of these data notwithstanding, it seems that word-final syllables were reduced by the stage these inscriptions reflect; as a result, word-final vowels

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[53] See also Schmitt (1989, p. 59f.) for the widely diverging interpretations that have been suggested.

[54] All data following Schmitt (1999, p. 80ff., 91ff., 114f.). For the latest edition with updated references, see Schmitt (2009, p. 26f., 194–197). Artaxerxes II reigned 405/04–359/58 BC, Artaxerxes III 359/58–338/37 BC (Schmitt 1985).

[55] Schmitt (1999, p. 82, 84). The form also shows a reverse application of *aya* > *ē* and is interpreted as "backformation or inverse orthography of MP **pardēd* (< OP **paridaida-*)" by Mayrhofer (2010, p. 5).

[56] It is quite probable that the inscription does not date from Ariaramnes' reign, but rather from the time of Artaxerxes II / III (Schmitt 1999, p. 105).

[57] The relevant cases are the use of the n. for f. referring to the ensemble of *hadiš-* (n.) "palace" and *ustašanā-* (f.) "staircase" (A^2 Sc), and to *dahiyu-* (the other cases).

[58] The reference is to *hadiš* in both cases. Both phenomena occur in A^2 Sd, l. 4–6 <[i]-m-a-m : h-d^{i}-i-š : u-t-a : i-m-a-m [: u-s-t]-c-n-a-m : t-y : a-θ-g-i-n-a-m>, where Schmitt (1999, p. 79) would expect *ima hadiš utā imām ustacanām* (?) *tayām aθangainām*.

[59] The remaining instances of "irregular" morphology noted by Schmitt (1999, p. 115) all involve names, but it seems difficult to decide whether these data may be generalised to the nominal system as a whole.

and diphthongs were lost. Word-final *-ăm* and *-ĭm* appear to have coalesced, perhaps yielding **-əm*, which then served as a default ending (possibly of the nom./acc.) for various stem classes. Clearly, this account does not offer an overall explanation for the data[60], but if one assumes that the texts do reflect some sort of linguistic reality, at least part of the evidence would appear to point into the same direction as does the MPM evidence presented in Section 4.1.

This interpretation differs from that of Schmitt (1989, p. 60), who assumes that the data are "attempts of backformation of spoken forms, which had obviously already lost their endings, into those of the standard language", and that "the spoken language had already reached the stage represented later by Middle Persian", so that the apparent *šāyatām* would be a restoration from spoken *šāt*[61]. However this may be for the time point when the relevant inscriptions were composed, a sudden disappearance of all word-final syllables would seem less likely than a successive weakening of word-final syllables, resulting in the coalescence of stem classes before the final syllables were finally lost.

4.3. Elements of chronology

Combining the data in 4.1–4.2, suggesting a coalescence of vowel quantity in late OP and Proto-MP, and of the product of *-i/īm* and *-a/ām* being **əm* > *-um* > *-u*, a possible relative chronology of these developments may have been the following[62]:

(0) analogical substitution: °*čid* → *°*čim*[63],

(1) neutralisation of vowel quantity in word-final syllables: *-īm* > *-im*; *-ām* > *-am*,

(2) neutralisation of vowel quality in word-final syllables: *-im*, *-am* > **-əm,*

(3) labialisation: **-əm* > **-um,*

(4) loss of word-final *-m*: **-um* > *-u*.

Unfortunately, the pieces of data that have come down to us might look somewhat meagre, but they are all the more noteworthy in the light of the regulatory tendencies exercised by standard orthographies. They may thus be indicative of phonological and morphological processes taking place in word-final syllables in late Old Persian / Proto-Middle Persian which are otherwise not reflected in writing. If the data indicate a general phenomenon, one may conclude that the acc. (or nom./acc.) of many stem classes would have coalesced, viz. stems in *-a, -ā*, *-i, -ī*. These would all have shown *-u* for the predecessor of the direct case in Proto-Middle Persian. Surely then stems in *-u, -ū* would yield the same result.

5. Western Iranian dialects again

5.1. Given the fact that the data in Section 4. are from Persian, one might wonder whether Persian actually is the source for the unexpected *u-* and *o*-stems in Armenian. Indeed, there are a number of early Persian loanwords in Armenian, suggesting that not all Persian borrowings are later than the Parthian ones.

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[60] Particularly unclear is the status of *akunavām*, as other copies have still more aberrant forms (for which see Schmitt 1999, p. 81f., 117).

[61] Thus also in other works, e.g. Schmitt (2009, p. 196), cf. also note 55.

[62] Needless to say, these data are only a small element of the chronology of word-final syllables in Persian.

[63] Note, however, that, in contrast to Manichean MP, attested Old Persian does not show stage (0), cf. note 52.

Examples showing a stage preserving intervocalic voiceless stops and *č*, in combination with typically Persian sound changes of *ǰ* > *z* (vs. Pth. *ž*); *y-* > *ǰ-* (vs. Pth. *y*); *rθ* > *hr/l* (vs. Pth. *rh*) include: Arm. *ǰatagov* (*a*-/*i*-stem) "defender", *ǰatuk* (*a*-/*i*-stem) "sorcerer" (Ir. **yātu-ka-*, MPM <j'dwg-y> "sorcery", NP *ǰādū*); *zatik* (*a*-/*i*-stem), Georgian *zaṭiḳ-i* "*sacrifice; Eastertime"[64] (< **ǰati-ka-*)[65]; Georgian *ṭoziḳ-i* "feast, banquet"[66]; *dahlič* (*a*-/*i*-stem) "chamber" (OP *duvarθi-* "hall, portico", MPM <dhryz>, NP *dahlīz*)[67].

5.2 Olsen's (2005, p. 476f.) list of Ir. borrowings from the Arm. Bible with known stem classes contains only very few items that show specifically Persian characteristics. One candidate could be Arm. *doyl* (*i*-stem) vs. NP *dōl* "bucket; aquarius" if it was related to OInd. *dogdʰrī-* as suggested by Olsen (2005, p. 476; 1999, p. 246, 878) and if the development proceded via an intermediary stage **daudr-* > **daurd-* (with simplification and metathesis of the consonant cluster). However, a Semitic origin is more probable since Aramaic *dōl* has been found on an astrological manuscript from Qumran[68], thus the *l* in this word is likely to be too old to be the result of the MP sound change producing *l*.

Another candidate might be *(h)skay* (*i*-stem) "giant", which agrees with Persian *kai* in *Kai Xusraw* (vs. Pth. *kaw*, Av. *kauui-*) and might show the Persian change of **āwa, awā* > *ā*[69] if it derives from an acc. **kawāyam*[70] or possibly from an adjective *kāwaya-*[71].

However, these words are *i*-stems. Just like those quoted in Section 5.1, they do not provide evidence that MP borrowings were integrated as *u-/o*-stems in Armenian.

Moverover, the mismatching Arm. *u-* and *o*-stems do not provide good evidence of being from Persian. The only such case would be the *u-/o*-stem *sov* "hunger", for which the *s* points to a South-Western Ir. origin (see 3.2), but it is not excluded that the *-v* might have motivated the stem vowel. Conversely, some of the mismatching stems are clearly not South Western Iranian (see Sections 3.1, 3.3, 3.5). In this context, it seems worthwhile to note that the items adduced to show Eastern Ir. connections (see Section 2.1–2.2) appear to fit within this picture, as *pašar*, *mirg* and *karmir* are *o*-stems and *čakat* is an *u*-stem. Particulary interesting in terms of dialectal attribution are mismatching stems that show *ar* for Proto-Ir. **ṛ*. They provide evidence for a third Western Iranian dialect, as already pointed out by Bolognesi (1960, p. 25–27, 53f.)[72].

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[64] For discussion of this word, see Gippert (1989, p. 21–27).

[65] Gippert (1993/I, p. 343). For semantic reasons, the relation of *zatik* to Arm. *zatanem* "divide" or *azat* "free" assumed in the Arm. tradition is less likely (Gippert 1989, p. 15).

[66] The word is also found in Aramaic: <twzyk> (Gippert 2004, p. 108–110).

[67] For this word, see Olsen (1999, p. 874f.). The reading *dahrēz* (DMD 137b) is at variance with the Arm. data insofar as the *ē* is concerned.

[68] For this information I am indebted to Holger Gzella, who adds that the root *dalw* "draw water" (German "schöpfen"), to which *dōl* is likely to belong, is well attested in Semitic (cf. already Hübschmann 1897, p. 144, 302). The Qumran manuscript (no. 4Q318) is published in Greenfield / Sokoloff 2000.

[69] Cf. Hübschmann (1895, p. 168f., who treats under the same title all contractions across *w*, which are probably not on the same chronological level). Cf. also Section 3.3.

[70] Hübschmann (1895, p. 169) derives *kai* from an acc. Av. *kauuaēm* < **kawayam* (assuming a contraction *away* > *ai*), but **kawāyam* is more likely according to Cantera (2007, p. 16–18), cf. also Sogd. *kwʾy* (Sims-Williams 1992, p. 54). — I am grateful to Michiel de Vaan for pointing me to Cantera's article.

[71] This form could be present in Sogd. *kʾwy-prn(c)* according to Sims-Williams (1992, p. 54).

[72] Cf. note 18.

6. Conclusions

As noted by Olsen 2005, the pattern presented by the stem classes of Ir. loanwords in Armenian points to dialectal diversity within the Ir. sources that Armenian borrowed from. In doing so, the stem classes agree with phonological divergences within the Ir. lexicon preserved in Armenian because these, too, presuppose (at least) three different Iranian dialects as sources for borrowings into Armenian.

While the issue of dialectal diversity among the Ir. loans in Armenian may quite well be still more complex than establishing three Ir. sources, the issue at stake here chiefly concerns the phenomenon of Arm. *u*- and *o*-stems reflecting Ir. stems in *-a*, *-ā* and some other stems. Olsen (2005, p. 478f.) notes that these items seem to also show [dz] instead of [dž] following *r* and *n*; as discussed in Section 2.2, this phenomenon may be located within Western Iranian. It further appears that the unexpected Arm. labial stems are connected to the phenomenon of *ar* for Proto-Ir. **ɣ* (discussed in Sections 2.1 and 3.5), thus differing from both Middle Persian and Parthian (and Bactrian, for that matter). One such language is Zazaki, which has, for instance, *berd* and *kerd* for **bɣta-* and **kɣta-*, respectively, which, in the orthography used for Zazaki, represent /bard/ and /kard/[73].

Actual evidence for Ir. *a*-/*ā*-stems yielding forms in *-u* is also available in form of some peculiarities reflected by Manichean MP orthography (see Section 4.1). This evidence in combination with "errors" in some late OP inscriptions (see Section 4.2) seems to suggest that the vocalic stem classes coalesced in Proto-Middle Iranian and some default ending **-əm* yielded **-u* at some point. Assuming that the Ir. source furnishing the unexpected Arm. *u*- and *o*-stems shared this development, the Arm. perspective suggests that additional stem classes are likely to have ended up in the same slot, viz. neutre *man*-stems (Old Ir. nom./acc.n. *-a*) and some other consonantal stems, to which the default ending **-əm* appears to have been added. This would e.g. apply to Arm. *zawr* / *zōr* "army, troops" (vs. Av. nom./acc.n. *zāuuarə* /zāwar/), where an Arm. *u*-stem seems to imply the existence of **zāwaru* (i.e. virtual ***zāwaram*). That such may have happened is indeed not unlikely in view of Sogd. forms apparently pointing to a rather parallel **zamanu* "time" (cf. Section 3.3).

In conclusion, I would thus agree with Olsen 2005 and others that Armenian must have borrowed not only from Parthian and Middle Persian, but at least from one additional Ir. language. Against Olsen, but with Bolognesi 1960, I assume that the dialectal diversity responsible for the diverging behaviour of stem classes is to be sought within Western Iranian. The situation found for the mismatching *u-/o*-stems in Armenian is thus quite similar to the one of the Arm. suffix *-agin*, for which we argue (Korn / Olsen 2012) that it derives from a Western Ir. variety that shares with Middle Persian and Parthian the use of reanalysed **-ak-aina-* > Middle Ir. **-agēn*, but differing from both attested Middle Ir. languages in the actual form of the suffix.

Owing to the fact that Middle Persian and Parthian are the only Western Ir. languages attested in Middle Ir. times, the search for additional sources that is required to account for the Ir. borrowings in Armenian clearly involves a certain amount of groping in the dark, as it were. Nevertheless, the pieces of evidence that emerge at a close look tend to confirm and corroborate each other. Here, as elsewhere, Armenian furnishes precious pieces of evidence for the dialectology of Middle Iranian, and helps to enlighten "stages which are not or only insufficiently known from authentic evidence" (Schmitt 1983, p. 82).

[73] Cf. Korn (2013, p. 107f.).

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acc. = accusative
Arm. = Armenian
Av. = (Young) Avestan
B = Buddhist Sogdian
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CA = "Caucasian Albanian"
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MPM = Manichean Middle Persian

n. = neutre

nom. = nominative

NP = New Persian

NWIr. = North-Western Iranian

obl. = oblique case

OInd. = Old Indic

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PIE = Proto-Indo-European

pl. = plural

Pth. = Parthian

S = Sogdian script

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