

On the Armenian – Kartvelian Loan Contacts: Words with Initial $*\gamma w-$

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ABSTRACT

Four Proto-Kartvelian words with initial $*\gamma w-$ are traditionally held to be borrowings from either Proto-Indo-European or Proto-Armenian. Based on recent progress in Indo-European and Kartvelian linguistics, this paper argues that all four proposed PIE loanwords in PK are untenable; two out of these cannot be Proto-Armenian loanwords either. The third one, the word for ‘wine’, could be a Proto-Armenian loan in PK, but it has formal problems and the alternative proposed here, a Proto-Zan loan in Proto-Armenian, provides a more regular solution. Combined with the last case (the word for ‘juniper’), which also receives a regular solution only as a Proto-Zan loan, we have two Proto-Zan loans in Proto-Armenian instead of PIE/Proto-Armenian loans in Proto-Kartvelian.

KEYWORDS

Armenian, Kartvelian languages, Zan languages, Proto-Indo-European, loanwords, Armenian prehistory, Kartvelian prehistory

1. THE PROBLEM

A group of Proto-Kartvelian (henceforth PK) words characterized by the initial cluster $*\gamma w-$ has been the subject of long-standing scholarly scrutiny. While there is general agreement that these words are borrowings, one group of scholars has identified the source language as Proto-Indo-

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European (henceforth PIE), the other group of scholars as Proto-Armenian (for references, see Section 2). The importance of this question lies in the prehistorical implications: if they are loans from Proto-Indo-European, then they can help anchor both the (much-debated) Proto-Indo-European and the Proto-Kartvelian homeland in space and time.¹ If they are loans from Proto-Armenian, they can help anchor the Proto-Kartvelian homeland in space and time and help us better understand the unclear migration route of the Proto-Armenians probably from the Balkans to their historically attested territories.²

The key argument of the proponents of the Proto-Indo-European origin is that PK **γw-* reflects PIE **Hy-* (in which **H* is one of the three so-called laryngeals of PIE) via sound substitution (Klimov 1994: 298–299, see already 1991: 331–332 [but here more cautiously]). The precise phonetic definition of the Indo-European laryngeals is debated, but since every scholar assumes (post)velar sounds (cf. also below), this type of sound substitution in general makes phonetic sense and thus, the question to be investigated is whether the proposed PIE etyma had a laryngeal in this position and, if yes, whether it is indeed compatible with this assumed sound substitution.

The key argument of the proponents of the Proto-Armenian origin is that the proposed PIE etyma have only **y-* and thus, the ‘prothetic’ consonant in PK **γw-* requires explanation. They pointed out that PIE **y-* was continued in Armenian, a neighbour of the Kartvelian languages, as *g-*, which implies an intermediary form **gw-* and/or **γw-* (see the references in §2.3 and 2.4). The Kartvelian languages would have borrowed this intermediary form (with sound substitution in the case of **gw-*).³ Klimov (1998: 227) rejected this explanation ‘because the change **y > *g* probably must have been accomplished there long before the first Kartvelian–Armenian contacts in the 7th–6th centuries B.C.’ This is, however, not the case. First, we do not know precisely when Proto-Armenian speakers reached the territory of Kartvelian–Armenian contacts: this could have happened any time after the disintegration of the Hittite Empire at the beginning of the 12th c. BC, which closed their road from the Balkans.⁴ Second, we have limited but instructive clues about when this sound change, more precisely its different stages, happened. Since the resulting Armenian *g* does not show the Armenian consonant shift (more precisely, the sound shift mediae

¹ The assumption of PIE loans in PK has a long history (now codified by Kallio and Koivulehto 2018: 2284–2285 in the most recent handbook of PIE studies); cf. especially the relevant entries of Klimov 1998 (the final version of his decades-long research on the topic attempted to be exhaustive) as well as Gamkrelidze and Ivanov 1995: 774–776, Tischler 2002, and Smitherman 2012. Nevertheless, scholars widely differ in terms of the number of the assumed borrowings (the overall number is approx. 100) and especially regarding the validity of the proposals themselves, and thus, the entire issue requires a renewed, full-scale investigation (see now Simon 2022c). This paper is restricted to the above-defined group of proposals.

² There is general agreement in Indo-European studies that Armenian is more closely related to Greek, Phrygian, and Albanian within the Indo-European languages (see especially Klingenschmitt 1994: 244–245; Matzinger 2005: 381–386; Olsen and Thorsø 2022: 209–217). The most economical way to reconcile this observation with the historically attested Armenian-speaking territories is a migration from the Balkans via Anatolia. This is implicitly supported also by ancient authors who call attention to the historic contacts of the Armenians with the Phrygians (Herodotus, 7.73 and Eudoxus of Cnidus, fr. 279 Lasserre). This traditional hypothesis has not remained unchallenged, but an exhaustive treatment of this issue must be done elsewhere (most recently see Simon 2022b).

³ Since PK had **g-*, a sound substitution with **y-* seems odd. Nevertheless, this could be supported by, e.g., PIE **iēug-* ‘yoke’ → PK **uy-el-* ‘id’, a widely accepted PK borrowing from PIE (e.g., Klimov 1994: 299, 1998: 196; Tischler 2002: 485; Gamkrelidze and Ivanov 1995: 774; Fenwick 2017: 311; Kallio and Koivulehto 2018: 2285, but see the criticism of Gippert 1994: 116). See below for further discussion.

⁴ Contrary to some claims (see especially Djahukian 1990) there is absolutely no evidence whatsoever for the Anatolian presence of Proto-Armenians already in Hittite times or even earlier (see most recently the critical overviews of Petrosyan 2007 and Simon 2022b).



> tenues), i.e., it did not become †*k* (Ravnæs 2005: 198, 200), the phases **gw-/ *γw-* > *g-* must postdate this shift, which happened after the earliest Old Iranian loans in Armenian (Clackson 2017: 1120 with refs.).⁵ Moreover, this shift should have affected the assumed precursor **gw-* as well, but since this is not the case, it could not have been **gw-*. However, if it was already **γw-* at the time of the shift, then we have a regular solution. Phonetically speaking, this medial stage between **w* and **g* was not necessarily **γw*, it could have been anything similar that phonetically can be reconciled with such a sound change and did not contain a voiced stop. One can even assume a direct change **w* > **g* (after the consonant shift), although this is not the typical way of this sound change. Nevertheless, the Kartvelian loan contacts clearly support an intermediate stage **γw-*.

This does not mean, however, that the change **w* > **γw* must also postdate this shift. First, there could have been a stage **gw-* between **w-* and **γw-*, but then, of course, **gw-* should have become **γw-* already before the consonant shift, implying an even earlier change **w-* > **gw-*. That said, it is more probable on phonetic grounds that **gw* was the intermediate stage between **γw* and *g* (unless one wants to assume it in both cases). Second, Armenian *vaš* ‘good, bravo’ is a borrowing from Luwian *wāšu-* ‘good’ (Simon 2013: 118 with refs.), and it does not show this change, i.e., it must have been borrowed after this sound change had been completed.⁶ Luwian is certainly attested as a spoken language only until the beginning of the 7th c. BC (Simon 2021: 679),⁷ and thus, perfectly fitting in terms of absolute chronology. All in all, we have the following relative chronology:

- 1) **w* > **γw*
- 2) borrowing of Luwian *wāšu-* // borrowings from Urartian
- 3) Armenian consonant shift tenues > tenues aspiratae
- 4) earliest Old Iranian loans
- 5) Armenian consonant shift mediae > tenues (**g* > *k*)
- 6) **γw* > **gw* > *g*

⁵ Some scholars reject that the so-called Armenian consonant shift happened after the earliest Old Iranian loans (e.g., Gippert 2005: 155, Schmitt 2007: 56). The solution to their criticism is that this consonant shift consisted of two chronologically different steps (tenues > tenues aspiratae and mediae > tenues), with the appearance of the earliest Old Iranian loans between these two steps (Ravnæs 2005: 197, 198). Note that this issue is not relevant to this paper since the Urartian borrowings of Armenian (slightly later than or at best contemporaneous with the Luwian borrowings on historical-geographical grounds, cf. Simon 2022b), underwent the change tenues > tenues aspiratae (see, e.g., Arm. *p’ox-* ‘to exchange’ < Urart. *puḫ-* ‘to (ex)change, alter’, Yakubovich 2016: 181, Simon 2022a: 68 [see this paper on the Armenian borrowings from Urartian in general]), providing the necessary relative and absolute chronology.

⁶ ‘Anonymous reader A’ objected that this is not a good example, since Arm. *vaš* ‘good’ can also be explained from Parthian *wxas*’ (for the initial consonant (s)he quoted Arm. *vang* ‘sound, voice’ from Parthian *wx’ng* ‘id.’). While this etymology cannot entirely be excluded, it has semantic and phonological problems: Parthian *wxš* means in fact ‘pleasant, sweet’ (Durkin-Meisterernst 2004: 349) and the proposed sound substitution cannot be taken for granted since Armenian *vang* is traditionally explained from Middle Persian *vāng* ‘voice, outcry’ (see already Hübschmann 1897: 243, cf. also EDAIL: 167), which is semantically more convincing than the Parthian word, which in fact means ‘call, sermon’ (Durkin-Meisterernst 2004: 348). In other words, the Luwian hypothesis provides a semantically and formally better fitting etymology. Note that the acceptance / rejection of the Luwian etymology has no relevance for the main claims of this paper.

⁷ Perhaps even longer considering the abundant onomastic material attested until Roman times, but investigations are lacking into whether these names reflect a vernacular or only name-giving traditions. In any case, this onomastic material is restricted to an area far away from Armenian speaking territories, and thus, this issue has no relevance for the present paper.



Thus, first, Klimov's counter-argument can be eliminated; second, the assumed Kartvelian borrowings would provide direct confirmation of the postulated phase $*\gamma w$; and, third, the problematic assumption of the sound substitution Proto-Armenian $*g \rightarrow PK *y$ would also be eliminated.⁸

In other words, both theories are theoretically possible and, in fact, are not even mutually exclusive, since one might theoretically imagine a long phase of Proto-Kartvelian borrowing from both PIE and Proto-Armenian. Therefore, in order to make a decision a renewed linguistic investigation of the proposed etymologies is needed based on our current understanding of Indo-European and Kartvelian linguistics, and this paper attempts this investigation.

2. THE MATERIAL

The debate involves four alleged PIE / Proto-Armenian loanwords in PK.⁹ Before turning to these cases, it is worth mentioning that all these PK words fulfil the criterion of the PK status, i.e., a Svan cognate next to the Georgian and/or Zan (Megrelian and Laz) forms. Furthermore, while semantic reconstructions are frequently problematic, in these cases the meanings in the four Kartvelian languages coincide and thus, there is no doubt regarding the PK meanings.¹⁰

2.1. PIE $*ueb^h$ - or $*Hueb^h$ - 'to weave' \rightarrow PK $*yweb$ - 'to weave, wattle' (Klimov 1991: 331, 1994: 298 [as a loanword, followed by Tischler 2002: 485], 1998: 225 ['the similarity [...] deserves attention']).

The first problem appears on the PIE side, since this verb is currently reconstructed in three different forms. First, the traditional reconstruction, provided also by the standard compendium of the PIE verbs (LIV²: 658 [Kümmel]) as $*ueb^h$ - 'umwickeln, weben'.¹¹ Second, as $*h_1ueb^h$ - based on the interpretation of Mycenaean Greek *e-we-pe-se-so-me-na* as /ewepsēsomena/ 'which are to

⁸ 'Anonymous reader B' asked if it is likely that $*\gamma w$ - existed in Proto-Armenian over a long period of time, considering that Armenian does not have / γ /. But there is nothing unlikely in the long existence of phonemes that disappear in a later stage of the same language; it suffices to compare the reconstructed phoneme system of any proto-language with that of a living descendant. E.g., the PIE laryngeals just mentioned existed over millennia, only to disappear from the phoneme inventory of the overwhelming majority of the Indo-European languages.

⁹ Besides, Klimov (1998: 226) claims that the 'similarity' of PIE $*(H)uel$ - 'to curve' to PK $*ywel$ - / ywl - 'to curve, to bend' is 'remarkable' (but sceptically in 1991: 337). However, the correct PIE form is $*uel$ - 'drehen, rollen' (LIV²: 675 [Kümmel]) certainly without an initial laryngeal (cf., e.g., Ancient Greek εἰλέω [Aeolic ἐλλέω] 'drehe, winde' < $*\epsilon\lambda$ -véω, ἰλλω 'drehe, winde' < $*\epsilon\lambda$ -), and accordingly, it cannot be a PIE loanword. The theoretically possible alternative, a loan from Proto-Armenian (the PIE verb is continued in Armenian as *gelowm* 'drehe') is formally excluded by the correct PK reconstruction, which is $*yul$ - 'krumm, gebogen' (Fähnrich 2007: 500, 2019: 99, cf., e.g., Georgian (*m*)*yul*- 'Sichel', Megrelian *yul*-*a* 'gebogen, krumm, lügnerisch', Laz *yul*-*a* 'gekrümmt, geneigt, gebogen', Svan *yul*-*ä*-*j* 'Knie'). Finally, the Kartvelian base of the comparison Proto-Georgian-Zan $*\gamma wenk$ - 'to bend, crook' with PIE $*ue(n)k$ - 'id.'" (on the PIE root see LIV²: 683 [Kümmel]), sceptically mentioned by Klimov 1991: 337, is unclear to me, since Klimov did not quote any source or daughter language form and neither Klimov's nor Fähnrich's etymological dictionary include any similar reconstruction.

¹⁰ Reference is given to works written in languages used in Indo-European linguistics. Exhaustive references to works written in other languages (Russian and Caucasian languages) can be found in the literature quoted.

¹¹ This would exclude the PIE origin, since then, PK $*y$ - remains without explanation (as it cannot be the reflex of a laryngeal, *contra* Klimov 1994: 298–299) and the *Anlaut* $*we$ - is completely regular in PK (see, e.g., the numerous reconstructions in Fähnrich 2007: 158–162), but Proto-Armenian could still provide a phonologically fitting source, as indeed preferred by Matasović (2012: 6) and Björn (2017: 67).



be woven.¹² The interpretation of the Mycenaean form, is, however, contested (see the overview in Aura Jorro 1985: 267 with refs.), even though only Beekes's interpretation is formally regular *and* makes sense contextually and his criticism of the alternative proposals (1969: 67) is well founded. Finally, Kümmel (2015 s.v. **ueb^h-*) now reconstructs the verb as **h₂ueb^hH-*: while the root-final laryngeal has convincing Indo-Iranian grounds, the initial laryngeal depends on the question of whether Hittite *huwapp-* 'to hurl, to throw' is a cognate (for a different etymology see, e.g., EDHIL: 369–371) – otherwise, as Kümmel admits, the form is to be reconstructed as **(h₁)ueb^hH-*.

While the question of the identification of the initial laryngeal is not irrelevant from the point of view of the borrowing,¹³ this can be left open here, since whichever the correct PIE form was, none of them is compatible with the PK form:¹⁴ First, the disappearance of the stem-final laryngeal requires explanation since a cluster **-by-* would have been completely regular in PK as one of the so-called harmonic clusters (cf., e.g., Fähnrich 2016: 32–33). Second, and more importantly, as Fähnrich (2007: 490) rightly argued, the correct PK form is **yob-*, since all four Kartvelian languages have *yob-* and only Svan has a *by-* form *yweb-*, which is, however, the result of a Svan sound change (Fähnrich 2007: 490). All PIE reconstructions would thus require a sound substitution of **e* with **o* after **u* as well as the disappearance of **u* in this environment, and while both are phonetically possible, they are *ad hoc* assumptions without any parallels among the suggested PIE borrowings in PK (the borrowing of an *o*-grade form, e.g., a causative, is not motivated and does not explain the loss of **u*).¹⁵ This excludes a Proto-Armenian borrowing, too.

2.2. PIE **(H)uedh-* 'leash, belt' → PK **ywed-* 'belt, leash' (Klimov 1991: 331, 1994: 298, 1998: 225–226 ['seems to be one of the most ancient borrowings from an Indo-European source'], followed by Tischler 2002: 485)¹⁶.

¹² Beekes 1969: 67, EDG: 1540, cf. also EDHIL: 1001–1002, EDPG: 576.

¹³ The phonetic value of **h₁* is usually reconstructed as glottal stop or [h] (e.g., Fortson 2010: 64; Beekes 2011: 147; Kapović 2017: 30; Byrd 2018: 2064–2065; Fritz and Meier-Brügger 2021: 116) and based on the Anatolian consonantal reflexes, Kloekhorst (2018) convincingly argued that **h₂* was a uvular stop (for further proposals, see the literature just quoted). PK did not have a glottal stop, but it did have [h] and at least two uvular stops, [q] and [q̄] (Fähnrich 2007: 14–15, 21, see 23–24 for more, unclear possibilities, cf. also 2016: 23–24). Therefore, the idea of sound substitution with [y], a uvular spirant, is rather odd. But assuming that this was the case, the question is which would be the most fitting phoneme underlying **y*.

¹⁴ The substitution of PIE **b^h* with PK **b* should cause no problem, since PK did not have voiced aspirated stops.

¹⁵ For the list of these borrowings see the references in n. 1. The single similar case I could find is PK **qor-* 'do, make', which was suggested as a borrowing from PIE **k^wer-* 'do, make' by Smitherman (2012: 510). However, this etymology is problematic: The formal differences were explained by Smitherman with the assumption that the PK form 'may indeed have been **q^wer-* or **q^war-*' since the 'existence of **o* in PK is debatable'. This is, however, completely baseless since the existence of PK **o* is unquestionably sound (see, e.g., Fähnrich 2007: 14, 16, 2016: 10–11). Accordingly, the formal side requires *ad hoc*, although not impossible assumptions (secondary rounding, the loss of the labial element, and the substitution of PIE **k* with PK **q̄*), but they need independent evidence. The semantic side is also problematic, since the Kartvelian forms (Georg. *ay-qor-v-a* 'Steinmauer errichten, verschließen, versperren'; Megr. *or-u-a* 'Steinmauer errichten', *or-an-s* 'er baut', Swan *qor* 'Tür, Hof', Georg. *qor-e* 'Steinmauer, Einfriedung', Fähnrich 2007: 519; not included in Klimov 1998) rather point to a meaning 'wall, yard, to build' (Fähnrich 2019: 79), while on the Indo-European side the meaning 'to do, make' is restricted to the Indo-Iranian branch and the other branches rather point to a meaning '(ab)schneiden, schnitzen' (LIV²: 391–392 [Lipp]). This can of course be reconciled with the meaning 'to build', but together with the formal problems this is at best a possible etymology.

¹⁶ Fähnrich 2007 did not include this PK word.



There is no such PIE word, and the material in Klimov's reference (IEW: 1116) does not contain such either: there is only Vedic *vádhra-* with this semantics, but this is a secondary, dissimilated form from *várdhra-* from a different root (EWAia 2: 521–522). IEW did assume a root **ued^h-* 'knüpfen, binden', but this is in fact only a secondary Celtic and Germanic innovation of the root **ued^h-* 'führen' (via 'zusammenführen', LIV²: 659 n. 2 [Kümmel]).

2.3. PIE **uej-* 'juniper' → PK **ywi(a)-* 'juniper' (Klimov 1994: 298, followed by Tischler 2002: 485).

There are several problems with this proposal. First, the correct PK form is **ywiw-* (see Old Georgian *ywiv-* and Svan *ywiw*, both 'juniper', Fähnrich 2007: 486, *contra* Klimov 1998: 226–227).¹⁷

Second, the proposed PIE form does not exist. There are several cognate plant names, but they all reflect PIE **uejHti-* / **uiHti-* 'willow'.¹⁸ Setting aside the semantic difference, the PIE word obviously cannot be the source of the PK form due to the almost completely different forms without any possible explanations for the differences. It is also noteworthy that the root definitely did not have an initial laryngeal (pointed out already in EDAIL: 212, cf. especially the Ancient Greek form), and thus, the *Anlaut* of the PK form cannot be explained, *contra* Klimov (1994: 298–299), who attributes the initial consonant to a reflex of the PIE laryngeal.

As for the possibility of Armenian origin, PIE **uejHti-* / **uiHti-* could lead to Arm. *gi* (after the loss of the laryngeal, intervocalic **-t-* gives *-y-* next to **i* [Kim 2016: 160–162]; on the loss of final **-y* after **i* see Schmitt 2007: 47; Friedrich's solution, 'the PIE *t*-extension could have been dropped' [1970: 55], is *ad hoc* and unnecessary) and several scholars indeed derive Arm. *gi* 'juniper' from PIE **uejHti-* / **uiHti-* 'willow'.¹⁹ Some scholars have even proposed that the precursor of *gi* (**gwi-/ywi-*) was the source of the Proto-Kartvelian word (EDAIL: 212 with ref., Thorsø 2022: 103). *Gi* can indeed regularly continue **gwi-*, but it explains neither the first nor the last consonant of Proto-Kartvelian **ywiw-* (the latter problem was admitted by Thorsø [2022: 103] as well, but his solutions ['perhaps it may somehow reflect PA **-θ-* [*<*-t-*] or have been introduced as a hiatus breaker'] are *ad hoc*) and the latter problem remains also in case of an intermediate form *ywi-*.

There are problems on the Indo-European side as well: while PIE **uejHti-* / **uiHti-* 'willow' > Arm. *gi* 'juniper' is formally possible, it is very dubious in semantic terms, since, as Thorsø (2022: 103) already pointed out, we are dealing with very dissimilar trees. The only other etymology of *gi* does not help either: Lidén (1905–1906: 494–497), Pokorny (IEW: 1133), as well as Mallory and Adams (EIEC: 644 and 2006: 379) derived it from PIE **uejs-* 'twist, wind around', which

¹⁷ 'Anonymous reader A' objected that the PK status of this word cannot be taken for granted, since the Svan word can be a borrowing from the Georgian form. This is in theory indeed possible; nevertheless, the Svan word shows the phonologically expected reflex of a PK word, and thus, the assumption of borrowing requires additional evidence. Note that even if the Svan word turns out to be a borrowing from Georgian, it does not affect the etymology proposed here (an Armenian borrowing from Zan).

¹⁸ See, e.g., Proto-Iranian **uajti-* 'willow' (> Young Avestan *vaēiti-*, Middle Persian *wēd*, etc., also Pashto *vala* <**uajtijā-* 'willow'); Proto-Celtic **wēti-* 'willow' (> Middle Irish *féith* 'some kind of twining plant', Middle Welsh *gw(y)den* 'withé, etc.); Lithuanian *vytis* 'willow', Old Norse *viðir* 'willow', cf. also Ancient Greek γιτέα (= φιτέα) *itrea* (Hesychius), *itrea* 'willow', cf. Friedrich 1970: 55–56, EWAia 2: 578–579; EIEC: 643 (Friedrich), Mallory and Adams 2006: 157, 160; EDPC: 418; EDAIL: 212, all with further derivatives and references.

¹⁹ Friedrich 1970: 55, Campbell 1990: 174 (with question mark), EDAIL: 212, Thorsø 2022: 103 (doubtful, pointing out the problematic semantic change).



is formally possible and semantically not impossible. The problem is that the existence of this PIE root is more than doubtful (not included in LIV² either): Lith. *výstyti* ‘swaddle, swathe’ and Vedic *veṣṭáyati* ‘wrap’ are language-specific derivations from PIE **u̯ieh₁-* ‘umwickeln, umhüllen’ (ALEW s.v. [Hill] and EWAia 2: 586–587; on the PIE form see LIV²: 695 [Kümmel]), and the further material adduced by these authors is of unknown or different etymology.²⁰ Nevertheless, should it turn out to be the correct solution (e.g., via an *-s*-extension of PIE **u̯ieh₁-* [for such extensions see, e.g., Hittite *hārš-* ‘to till the soil’ vs. PIE **h₂erh₃-* ‘to plough’, EDHIL: 312–313], i.e. **u̯ih₁s-o-*), then a connection with the Proto-Kartvelian form must be abandoned, since its final *-w-* remains unexplained.

Therefore, it is interesting to remark that the missing Proto-Zan form of Proto-Kartvelian **γwiw-* ‘juniper’ should *lautgesetzlich* have been **γwi* ‘juniper’ (with the regular loss of **w* in root-final position, Fähnrich 2007: 22 with examples), which would provide a formally and semantically perfect source for Proto-Armenian **gwi-* / **γwi-* (whence regularly *> gi*), more fitting than an etymology from ‘willow’.²¹ While the borrowing could have happened via the sound substitution **γ → g*, as I argued above, one can expect a Proto-Armenian cluster **γw*, and the Proto-Zan form would show precisely the same cluster. Although it is unfortunate that this word is not attested (anymore) in the Zan languages (Megrelian and Laz; note that they have not been recorded before the scholarly research), this does not exclude this etymology, since this is not unparalleled in the etymological research. To quote an example from the same context, the Armenian–Proto-Zan loan contacts, there is general agreement that Arm. *očxar* ‘sheep’ is a loan from Proto-Zan **o-čxar-* ‘sheep’ (based on Georgian *sa-cxovar-* ‘cattle’), even though the Zan languages show only the cognates of the base word at best (Laz *(m)čxu(r)-* / *mcxur-* / *mškur-*, Megrelian *šxur-* vs. Georgian *cxovar-* ‘sheep’).²² It must also be noted that the lexical contacts between Proto-Armenian and Proto-Zan are well established (e.g., Vogt 1938: 332–333, Schmidt 1992: 288–289, cf. also Greppin 2000: 87–88), and therefore, a Proto-Armenian borrowing from Proto-Zan would fit perfectly in general terms.²³

²⁰ On Lithuanian *viesulas* and Russian *víxř* ‘whirlwind’ see ALEW s.v. (Hill), on Vedic *véṣa-* ‘dress, ornament’ see EWAia 2: 585–586, on Old English *wār* ‘seaweed’ see EDPG: 567. Lithuanian *výstas* ‘corset’ and Latvian *vīsts* ‘bundle’ are secondary, deverbal derivations from the above mentioned Baltic stem, see Fraenkel 1962–1965: 1265 and ALEW s.v. *výstyti* (Hill), respectively.

²¹ The source cannot be the Zan languages themselves (at least in their modern form) since PK **w* became *v* in both Megrelian and Laz. This sound change was probably *einzel sprachlich*, since Old Georgian still has /w/ (and therefore, Proto-Georgian-Zan still had **w*/) and **w* could have become [b] under unknown circumstances in both Megrelian and Laz (Fähnrich 2007: 23), which implies that **w* was still preserved as such in Proto-Zan. Accordingly, it is in theory possible that the source was Proto-Megrelian or Proto-Laz, but more research is needed to date this sound change more precisely. Nevertheless, since we are dealing with a Proto-Armenian form before the Old Iranian and Luwian loans (as per above), a Proto-Zan form is chronologically much more probable. – The retention of the word-final *-i*, i.e. the Zan nominative ending, is obviously due to the Armenian morphophonological restrictions (řgw would not have been a phonologically well-formed word in Armenian, cf. Schmitt 2007: 38).

²² Greppin 2000: 87 n. 12, Gippert 2005: 154, Fähnrich 2007: 585–586, cf. Klimov 1998: 275; previously it was booked as of unknown origin (Olsen 1999: 939).

²³ The only remaining question is why **γwi* ended up in the *o*-stems, instead of, for instance, the *i*-stems. However, this is not isolated: the *o*-stem *xnřor* ‘apple’ is a borrowing from Hurrian *hřinřuri* ‘dto’ (e.g., Diakonoff 1985: 600 and Simon 2022: 76, with refs.). ‘Anonymous reader A’ kindly called my attention to the fact that also other Armenian monosyllables ending in *-i* (such as, e.g., *li* ‘full, abundant’ and *ji* ‘horse’) are *o*-stems, and thus, it might have been analogically introduced into the *o*-stems.



2.4. The PIE word for ‘wine’ → the PK word for ‘wine’

The PK word for ‘wine’, reconstructed either as **γwino-* or as **γwin-* (cf. below) is very frequently explained as a loan from the Indo-European word for ‘wine’, reconstructed in different ways.²⁴

First of all, it must be pointed out that there is much progress in understanding the PIE form, which is now reconstructed as **uéh₁-on-/u₁h₁-n-* (see, e.g., Lipp 2019 and Steer 2021), and while the meaning ‘wine’ is generally assumed, Gorton (2017) cogently argued that the meaning was ‘grapevine’ (literally ‘twiner, creeping [plant]’), while the meaning ‘wine’ appeared only secondarily in the derived forms of the daughter languages (followed by Lipp [2019], but ignored in the subsequent reconstruction of Steer [2021] and misrepresented in Schürr 2019: 54 [‘basiert nicht auf dem sprachlichen Befund’]). The semantic distance already calls into question the PIE etymology, which must anyway be excluded since **we/i/o-* were perfectly regular *Anlauts* in PK (see, e.g., the reconstructions in Fähnrich 2007: 158–163, 165) and thus, there is no explanation for the PK initial consonant cluster. Klimov’s (1994: 298–299) explanation, the reflex of a laryngeal, is untenable since this root certainly has no initial laryngeal, cf. Mycenaean *wo-no*, Ancient Greek οἶνος ‘wine’ (pointed out already by EDAIL: 212). As was observed long ago, the Armenian derivative of the PIE root, *gini* ‘wine’ could have had a proto-form with **gw-* and/or **γw-* < **w-*, providing an explanation for the PK *Anlaut*.²⁵ Although Klimov (1998: 227) claimed that it cannot go back to Armenian ‘because the change **u > *g* probably must have been accomplished there long before the first Kartvelian-Armenian contacts in the 7th-6th centuries B.C.’, we saw in the introduction that this not the case.

However, an Armenian etymology has not convinced all scholars. According to Fähnrich (2007: 486, see already 2002: 35–36), **γwin-* (which is the correct PK form, not the widespread **γwino-*, cf. Georgian *γvin-o-*, Megrelian and Laz *γvin-*, Swan *γwin-el/äl*²⁶) is not a borrowing, but an “umgelaute Form” of the PK verb **γun-* ‘krümmen, biegen, winden’ (Fähnrich 2007: 501), “deren Umlautung in Nominalformen eine gewöhnliche Erscheinung ist” (2016: 78). Understanding this claim requires a more general setting. A change from **γun-* ‘krümmen, biegen, winden’ to **γwin-* ‘wine’, i.e., from a verb to a noun by internal derivation via the different grades of the root vowel, is called *Ablaut* (not *Umlaut*) and this phenomenon is indeed well attested in PK (nevertheless, I was not able to find any precisely parallel case with the same vocalism). The other possibility is that **γwin-* originates in **γun-* via a sound law **u > *wi* (which is again not

²⁴ Klimov 1991: 331, 1994: 298 (**uejino-*; **γwino-*), 1998: 227 (‘must be treated as a very early loanword’), followed by Tischler 2002: 485 and Fenwick 2017: 311 (**wéyh₁-n-*; **γwin-*); Kallio and Koivulehto 2018: 2285 (**ue/oih₁-no-*; **γwino-*). But note Clackson (2017: 1123), who, ignoring the Indo-European reconstructions, still derives both the Indo-European and the Kartvelian words from a ‘Mediterranean *Wanderwort*’. Bjørn (2017: 117–118) concludes that an ultimate Kartvelian origin is ‘more likely’ (presumably with respect to its geography), although, confusingly, he accepts that the PIE word is internally derived from a verb (cf. below) and ignores that this direction of borrowing is not possible formally.

²⁵ See already Pedersen 1906: 458; Vogt 1938: 334; Kronasser 1968: 489 (‘eindeutig auf armenische Herkunft weist’), in the more recent literature Dolgopolsky 1987: 20; Gippert 1994: 118–121, 2005: 152 n. 59; Greppin 1998, 2008: 49, 2017: 22; Matasović 2012: 6; Brogyanyi and Lipp 2016: 67, 74; Gorton 2017: 22; Olsen 2017: 429; Kallio and Koivulehto 2018: 2285; Lipp 2019: 204, 223; Schürr 2019: 47; Thorsø 2022: 101–102; an Armenian origin was also assumed by Hübschmann (1897: 397) and Djahukian (1990: 31), among others.

²⁶ Cf. already Gippert’s critical remarks (1994: 119). The Georgian and Svan forms are regular internal derivations (on the Georgian suffix see Fähnrich 2007: 324 with ref.) and therefore, neither Thorsø’s assumption of a post-Proto-Kartvelian spread (2022: 102) nor Neri’s claim of different adaptations of the Armenian **-ijo-* stem (apud Lipp 2019: 204) is well founded (against the latter see also Thorsø 2022: 102). The reconstruction **γuinjo* by Brogyanyi and Lipp (2016: 67, 74) and Lipp (2019: 204, 223) has no basis.



called *Umlaut*) and a new meaning became somehow attached to the secondary form. However, since both **γwin-* and **yun-* are PK roots, the assumed sound change **u > *wi* must also be PK – but there is no evidence for such a sound change within PK. This problem could be solved if the meanings **γwin-* and **yun-* were identical or nearly identical (which would force one to assume their cognacy), but this is not even remotely the case. Thus, what remains is the theoretical possibility of the nominalization, but it is hard to imagine the nominalization or a by-form of ‘krümmen, biegen, winden’ as acquiring the meaning ‘wine’. One may of course assume that it meant first ‘*vine’ (such as the above-mentioned **uéh₁-on-/*u₁ih₁-n-’* ‘grapevine’ from the above-mentioned **u₁eh₁-* [see the reference above]), later leading to ‘wine’, but the probability of such an explanation diminishes with all additional steps, especially since **uéh₁-on-/*u₁ih₁-n-’* ‘vine’ only secondarily acquired the meaning ‘wine’ in derived forms, while there is no evidence for the meaning ‘vine’ in the case of **γwin-*. In other words, a derivation of **γwin-* from **yun-* is morphologically and semantically doubtful.²⁷

However, the unfitting PIE and internal etymologies of PK **γwin-* ‘wine’ do not necessarily mean that its Proto-Armenian derivation is the correct one. While the problem of the PK initial cluster **γw-*, which required an unmotivated sound substitution from Proto-Arm. **gw-* (**gw-* was completely regular in PK, see the reconstructions in Fähnrich 2007: 99–106), can be solved now by the Proto-Armenian medial stage **γw-* (as per above), there is a morphophonological problem. Since Arm. *gini* is a nominalized *-ijo-* derivative of **uéh₁-on-/*u₁ih₁-n-’*, the PK form can be explained either from an unattested Armenian base word **γwin-* (see, e.g. Gippert 1994: 120; Thorsø 2022: 102) – but we cannot be sure that it ever existed – or from a precursor of *gini*, i.e., Proto-Arm. **γwini* (reanalysed as nom. sg. in PK), provided that the Proto-Arm. stem final *-o-* was lost when the word still started with **γw-*. This is, however, what we do not know, since the loss of the final vowel was a late phenomenon that affected the Old Iranian loans, i.e., it was roughly parallel to the change **γw- > *gw-* (see the chronology above), and their relative chronology to each other requires further research.

Since the existence of fitting Proto-Armenian words cannot be unequivocally demonstrated, it is worth recalling the Proto-Zan form (nom. sg.) **γwini* that provides a perfect forerunner of Armenian *gini* < **γwini*. Morphologically speaking, **γwini* could easily have analogically been understood as a derived form with the productive Armenian suffix *-i* (obl. *-wo-/-ea-*), which was even added to loanwords (Thorsø 2022: 101 n. 11), leading to the attested declension. While in the present state no unambiguous decision can be made, this explanation has the advantage of Occam’s razor.²⁸

²⁷ Fähnrich’s non-linguistic arguments for a Kartvelian origin (the origin of viticulture in the Southern Caucasus and the age-old tradition of wine-making in the same region) are of course non-decisive.

²⁸ Theoretically, Luwian *wiyan(iya)- > wini-* ‘wine’ could also have been a forerunner of the Armenian word (on this [secondary] meaning of the word, see Gorton 2017: 6; Weeden 2018: 341–342; Schürr 2019: 49; Lipp 2019: 202; Bauer 2021). However, as the case of *vaš* with preserved *v-* shows, *wini-* should have been borrowed before the Armenian change **w- > *γw-* (cf. above). The centuries-long chronological window for Luwian–Proto-Armenian contacts allows such a possibility and if it is correct, the Proto-Kartvelian word is not connected. Nevertheless, *wini-* should have lost its final vowel in Armenian, since at that early stage an analogical reanalysis as an **-io-* stem (leading to the attested Armenian form) would not have been possible (unless one wants to assume a Luwian form **winiya-*, but this would be completely irregular).



3. RESULTS AND IMPLICATIONS

As the above investigation shows, all four proposed PIE loanwords in PK are untenable; two out of these cannot be Proto-Armenian loanwords either. One of the remaining two, the word for ‘wine’, could be a Proto-Armenian loan in PK, but it has formal problems and the alternative, the Proto-Zan loan in Proto-Armenian, provides a more regular solution. Combined with the case of ‘juniper’, which receives a semantically superior and regular solution only as a Proto-Zan loan, we can conclude that instead of PIE/Proto-Armenian loans in Proto-Kartvelian, we have two Proto-Zan loans in Proto-Armenian (Proto-Zan **γwi* ‘juniper’ → Proto-Armenian **γwi-* > *gi* ‘juniper’; Proto-Zan **γwini* ‘wine’ → Proto-Armenian **γwini* > *gini* ‘wine’). This has important consequences.

First, a chronological one. The phases of the Kartvelian language family are traditionally dated with the help of glottochronology,²⁹ and thus, these dates are completely unfounded (for a criticism of glottochronology from a Kartvelian point of view, see Fähnrich 2019b: 127–131). However, the presence of Proto-Zan loans in Proto-Armenian provides a clear absolute chronological reference point (a *terminus post quem*) since, as pointed out above, we cannot count on Proto-Armenian presence in the neighbourhood of Kartvelian speakers before the beginning of the 12th c. BC.³⁰

Second, a geographical one. Although the term for ‘wine’ could be a *Wanderwort* via trade and thus not imply direct neighbourhood, this hardly applies to the word for ‘juniper’. This means that Proto-Armenian speakers were the neighbours of the Proto-Zan speakers sometimes after the 12th c. BC. Considering that in their earliest attested historical period (6th c. BC), Zan speakers populated the eastern part of the southern Black Sea coast (see especially Lordkipanidze 1996: 158–163 and Simon 2014, especially 125–129 with detailed references), we should place the Proto-Armenian speakers in the neighbourhood of that region. Interestingly enough, this is definitely west of their historically attested region and thus provides a welcome piece of evidence regarding their migration route. Precisely where and precisely when this migration happened requires further research (see now Simon 2022b).

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²⁹ The dissolution of Proto-Kartvelian was thus dated, e.g., by Gamkrelidze and Ivanov 1995: 777 n. 19 to the ‘very early second millennium B.C. (and possibly much earlier)’ and similarly Klimov 1994: 91 with references (19th c. BC, which may be even too late), who later changed his mind (approximately 4200 years before present, Klimov 1998: ix).

³⁰ Simon (forthcoming) now argues for dating Proto-Kartvelian before 2000 BC based on a (pre-)Proto-Luwic or Proto-Luwian loan in Proto-Kartvelian. If this is correct, it is consistent with the date of Proto-Zan proposed here.



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