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THE PREHISTORY OF THE CLASSICAL ARMENIAN WEAK AORIST

1. Introduction: strong and weak aorists

One of the defining features of Classical Armenian verb morphology is its two-stem system: almost every verb has two stems, present and aorist, from which all attested forms may be derived. The Proto-Indo-European origins of the various present and aorist formations and the relations between the two stems have been investigated by scholars such as Meillet, Godel, Klingenschmitt, and Kortlandt, but many questions remain¹.

Whereas the present stems belong to a multitude of formal classes, the aorists are traditionally divided into two types, strong (unsuffixed) and weak (suffixed). Most of the former are associated with presents in *-anem/-anim*².

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² I leave aside the two verbs in *-nem*, whose aorists are synchronically irregular: *arnem* ‘make’, aor. *arari* (*arar*) and *dnem* ‘put’, aor. *edi* (*ed*). Here and below, aorist forms are cited in the 1 sg., followed by the 3 sg. of active aorists in parentheses.

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| (1) | <i>lk'anem</i> 'leave' | <i>lk'i</i> (<i>elik</i>) |
| | <i>lk'anim</i> 'am left' | <i>lk'ay</i> |
| | <i>usuc'anem</i> 'teach' | <i>usuc'i</i> (<i>usoyc</i>) ³ |
| | <i>usanim</i> 'learn' | <i>usay</i> |

There are also a significant number of strong aorists beside presents in *-um* (2) and *-num* (3). Two of the latter are formed to consonant-final roots, namely *ar̄num* 'take' and *jērnum* 'become warm', while in the remainder root-final **i* (in one instance, **u*) has been weakened to [ə].

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| (2) | <i>gelum</i> 'twist' | <i>geli</i> (<i>egel</i>) |
| | <i>helum</i> 'pour' | <i>heli</i> (<i>eheł</i>) |
| | <i>henum</i> , <i>hanum</i> 'weave' | <i>heni</i> (<i>ehen</i>), <i>hani</i> (<i>ehan</i>) |
| (3) | <i>ar̄num</i> 'take' | <i>ari</i> (<i>ař</i>) |
| | <i>jērnum</i> 'become warm' | <i>jēray</i> |
| | <i>aytnum</i> 'swell' (< <i>*ayti-nu-</i>) | <i>ayteay</i> (< <i>*ayti-a-</i>) |
| | <i>erdnum</i> 'fear' (< <i>*erdu-nu-</i>) | <i>erduay</i> |

The remainder belong to several minor types, including a few archaic verbs with synchronic root present in *-em/-im* beside root aorists (4), suppletive verbs (5), presents in *-č'em* and *-(n)č'im* with aorists in *-eay* (6); and the two presents in *-nam* (7).

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| (4) | <i>acem</i> 'lead' | <i>aci</i> (<i>ac</i>) |
| | <i>berem</i> 'carry' | <i>beri</i> (<i>eber</i>) |
| | <i>nstim</i> 'sit' | <i>nstay</i> |
| (5) | <i>ert'am</i> 'go' | <i>č'ogay</i> |
| | <i>əmpem</i> 'drink' | <i>arbi</i> (<i>arb</i>) |
| | <i>unim</i> 'have' | <i>kalay</i> |
| | <i>utem</i> 'eat' | <i>keray</i> (<i>eker</i>) |
| (6) | <i>čanač'em</i> 'know' | <i>caneay</i> |
| | <i>t'ak'č'im</i> 'hide' | <i>t'ak'eay</i> |
| | <i>erknč'im</i> 'fear' | <i>erkeay</i> |
| (7) | <i>dar̄nam</i> 'turn (intr.)' | <i>darjay</i> |
| | <i>bar̄nam</i> 'lift, carry' | <i>barji</i> (<i>ebarj</i>) |
| | mp. 'am lifted, carried' | <i>barjay</i> |

³ Similarly for other causatives in *-uc'anem*, aor. *-uc'i* (*-oyc*).

Although many verbs lack a clear etymology, and the origin of some of the person-number endings remains disputed, there is general agreement that the main sources of strong aorists are thematized PIE root aorists and, in a few cases, imperfects of PIE thematic presents: cf. *elik* ‘left’ ← **e-lik^w-e-t* ← PIE aor. **léyk^w-* ~ **lik^w-*; *eber* ‘carried’ < PIE impf. **e-b^her-e-t⁴*.

In contrast, weak aorists are associated with unsuffixed presents in *-em* and *-im*, as well as presents in *-am* and six verbs in *-num*. Those to presents in *-am* take the suffix *-ac*‘ (8), while the aorists of e.g. *lnum* ‘fill’ and *zgenum* ‘put on (clothing), get dressed’ have a bare *-c*‘ following the root (9).⁵ Almost all weak aorists to presents in *-em* and *-im* are characterized by the suffix *-eac*‘ in final syllables alternating with *-ec*‘ in pretonic position (10), e.g. *sirem* ‘love’, *sirim* ‘am loved’, aor. *sirec*‘*i* (*sireac*‘), mp. *sirec*‘*ay*. A much smaller group (11), found with just four presents in *-em*, shows an invariant suffix *-ac*‘, e.g. *asem* ‘say’, aor. *asac*‘*i* (*asac*‘)⁶.

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| (8) | <i>mnam</i> ‘remain’ | <i>mnac</i> ‘ <i>i</i> (<i>mnac</i> ‘) |
| | <i>yusam</i> ‘hope’ | <i>yusac</i> ‘ <i>ay</i> |
| | <i>luanam</i> ‘wash’ | <i>luac</i> ‘ <i>i</i> (<i>luac</i> ‘) |
| | mp. ‘wash (myself), am washed’ | <i>luac</i> ‘ <i>ay</i> |
| | <i>merjenam</i> ‘approach’ | <i>merjec</i> ‘ <i>ay</i> |
| | (< * <i>merji-anam</i>) | (< * <i>merji-ac</i> ‘ <i>ay</i>) |
| | | |
| (9) | <i>lnum</i> ‘fill’ | <i>lc</i> ‘ <i>i</i> (<i>elic</i> ‘) |
| | <i>zgenum</i> ‘put on (clothing)’ | <i>zgec</i> ‘ <i>ay</i> |
| | <i>ankenum</i> ‘make fall’ | <i>ankec</i> ‘ <i>i</i> (<i>anêc</i> ‘) |

⁴ See e.g. [Meillet 1903a: 84–85, 1936: 113, 114–115; K. H. Schmidt 1980b: 42, 1985: 226–227; Schmitt 1981: 144–145; Djahukian 1982: 187–189; Viredaz 2015, § 1.2–3]. On the person-number endings, see among others [Barton 1965: 54–65, 1973–1974; Winter 1975; Jasanoff 1979; Kortlandt 1981; Klingenschmitt 1982: 12–31; Viredaz 2015, § 2 ff.].

⁵ That all of these roots end in a vowel was first seen by Meillet [1903a: 85–86, 1913: 103–104, 1936: 114–115]; cf. [Jensen 1959: 109–110, Szemerényi 1966: 225]. See below, § 7 with fns. 69, 70.

⁶ For further synchronic details, see e.g. [Meillet 1903a: 85–86, 1913: 97–104, 1936: 115–116; Schmitt 1981: 144–152; Clackson 1994: 80–81].

(10)	<i>sirem</i> ‘love’	<i>sirec</i> ‘i (<i>sireac</i> ‘)
	<i>sirim</i> ‘am loved’	<i>sirec</i> ‘ay
	<i>t’agaworem</i> ‘rule as king’	<i>t’agaworec</i> ‘i (<i>t’agaworeac</i> ‘)
	<i>erewim</i> ‘appear’	<i>erewec</i> ‘ay
(11)	<i>asem</i> ‘say’	<i>asac</i> ‘i (<i>asac</i> ‘)

The origin of the weak aorist suffix is one of the perennial problems of Armenian historical linguistics, but the distribution of the suffix variants just described has often been overlooked in the scholarly literature. After surveying previous research (§ 2), I argue for the essential correctness of the analysis first proposed in 1956 by Karstien (§ 3), but modify his account after reexamining the treatment of PIE intervocalic *y in Armenian (§§ 4–5). The consequences for the relative chronology of pre-Armenian sound changes and the prehistory of Armenian presents in *-am* are considered in § 6. The wider connections and PIE origins of the weak aorist suffix are examined in § 7, and a tentative chronology of the evolution of the Armenian weak aorist and related categories is outlined in § 8.

2. Earlier analyses

The first scholar to discuss the origin of the Armenian weak aorists was Pedersen [1905: 212–213]. He compared the *-a-* of *gitac* ‘knew’, *asac* ‘said’, and *karac* ‘could’ with the **-ā-* of OCS aor. *bīra* ‘took’, *zūva* ‘called’, but thought that the majority type of *sireac* ‘loved’ went back to **-esā-*, i.e. an *s*-aorist plus **-ā-*; the stem-final *-c-* he identified with the PIE inchoative suffix **-sk^h/o-*. A generation later, Mariès [1930] derived pre-Arm. **-eac^h-* from a sequence **-is-ā-sk^h/o-* and compared the element **-is-* with the *-is-* of Latin perfect 2 sg. *-is-tī*, 2 pl. *-is-tis*, inf. *-is-se*, etc. as well as the *-iṣ-* of Old Indo-Aryan aorists such as *ābhār-iṣ-am* ‘carried’. Mariès’s interpretation was endorsed by Meillet [1933: 128–129, 1936: 115–116], Stang [1942: 76], Benveniste [1951: 20], Barton [1965: 70–74, 76–77], and Schindler [1966: 77], but received criticism from Karstien [1956a: 223–224] and Godel [1965: 40] and is no longer accepted today. Aside from the lack of any extra-Latin evidence for the

antiquity of **-is-* — not to mention the continuing debate over the prehistory of the Latin perfect in general⁷ — a preform **-is-ā-* offers no explanation for the handful of weak aorists in *-ac-* to presents in *-em*, e.g. *asac* ‘said’. Pedersen’s formulation too gives no indication as to why this small group should have a divergent source from the majority type⁸.

Karstien [1956a: 221–229; 1956b: 69–70, 95–99] compared the Armenian weak aorist formant with the OCS imperfects in 1 sg. *-axŭ*, 2, 3 sg. *-aše*, deriving both from a proximate preform **-ā-sk^e/o-*; along with a range of other (mostly lexical) isoglosses, he took this as evidence for a close prehistoric relationship between the two branches. Although Karstien’s interpretation of the Slavic imperfect is not generally accepted (see below, fn. 77), he did take the important step of considering the aorists in *-eac-* together with the small group in *-ac-*; the details of his argument will be outlined below in § 3.

An entirely different interpretation was proposed by Godel [1969: 255–257, 1975: 128]. In contrast to previous researchers, he considered the diphthong *ea* of the weak aorist in *-eac-* to be analogical to the pretonic allomorph *-ec-*, after the alternation *ea* ~ *e* known from e.g. *matean* ‘book, manuscript’ ~ gen. *mateni* or *learn*

⁷ Above all of the *u/v*-perfect; see the discussion and references in [Meiser 1998: 204–206, 2003: 220–237; Weiss 2011: 410–412].

⁸ The same criticism applies to Jasanoff’s [1979: 133, fn. 2] analysis of the weak aorist as an old imperfect in **-sk^e/o-* built to “an aorist in **-isa-* (> Arm. *-ea-*)” of unspecified origin. Jasanoff (p.c., 7 June 2016) now suggests that the Armenian weak aorist originated in sigmatic aorists in **-ē-s-* to derived presents in **-ey^e/o-* (cf. the type of Gr. *ἐφίλησα* to *φιλέω* ‘love’), to which was added **-a-*, generalized from 3 pl. **-a-nt*, mp. **-a-nto* ← **-ant*, **-anto* < PIE **-nt*, **-nto*; hence **-ē-s-a-* > **-iha-* > **-ea-*. However, the PIE *s*-aorist has otherwise left no unambiguous reflexes in Armenian, and the small class of *asac* remains unexplained. Moreover, the stem vowel *-a-* otherwise marks the mediopassive (see below, § 7 with fn. 61), and there is no reason why it should have been added to just this class of active forms. Even if the small group of *medium tantum* aorists in *-eay* (e.g. *erkeay* ‘feared’, *ayteay* ‘swelled’) goes back to **-i(h)a-* < **-ēs-a-* ← aor. **-ē-s-* [Kortlandt 1995: 15–16, 1996a: 41 (2003: 108, 114–115)], I do not understand how these could have been “the only source for the type in *-eac-*” [Kortlandt 2001: 11 (2003: 131)]; cf. [Kortlandt 1996b: 57 (2003: 118)].

‘mountain’ ~ gen. *lerin*, adj. *lernakan* ‘mountainous’, and above all from the participle in *-eal-* ~ *-el-* (e.g. *sireal* ‘loved’, gen. *sireloy*)⁹. The earlier situation would be preserved in *ənkenum* ‘make fall, throw down’, aor. *ənkêc*‘, which Godel takes to be an orthographic variant of *ənkec*‘. The original form of the suffix was therefore **-ec-*‘, which would continue pre-Armenian **-e-sk-e-* and/or **-eje-sk-e-*, directly comparable to Ionic imperfects such as *ἐθέλεσκε* ‘wanted’, *φιλέεσκε* ‘loved’ to *ἐθέλω*, *φιλέω*.

Godel’s hypothesis was endorsed by Schmitt [1972: 17–18, 1981: 145], but has since been criticized by several scholars, including Klingenschmitt [1982: 136], Clackson [1994: 81–82], and Viredaz [2015, § 1.4.4]. These authors point out that *e* is otherwise quite stable within both nominal and verbal paradigms, e.g. *berem* ‘carry’, aor. *beri*, 3 sg. *eber* or *tesanem* ‘see’, aor. *tesi*, 3 sg. *etes*; there is no observable tendency in the classical or postclassical language to generalize the alternation of pretonic *e* ~ tonic *ea*¹⁰. Godel speculates that *ea* may have been introduced for tonic **e* “in order to avoid uncommon endings, firstly in the imperative: *grea* instead of **gre*”, adding that “final *-e* never occurs except in the conjunction *et’e*, *t’e* ‘that’” [Godel 1975: 128], cf. [Godel 1969: 256]. But this argument is circular, since the active imperative singular to polysyllabic weak aorist stems regularly shows apocope of **-c-*‘: next to **gêtac*‘ > *gita* ‘know!’, **asac*‘ > *asa* ‘say!’, there is no reason why speakers should have had any problem with **girec*‘ > **gre* ‘write!’, **sêrec*‘ > **sire* ‘love!’, etc.¹¹

⁹ Godel may have been inspired by the remark of Mann [1968: 44]; cited in [Godel 1975: 44] that “the 3rd. sing. form of *-e-* stems (*-eac*‘) contains a non-historical *-a-* of uncertain origin.”

¹⁰ See already the critical remarks of Hübschmann [1877: 401]: “Wenn wir von *sirel* (aus *sêr-el*) lieben im aorist gebildet finden 1. person: *sirezí*, 2. p. *sirezér*, aber 3. p. *sireáz*, so müssen wir, um das *ea* der 3. p. zu erklären, annehmen, dass *sirezí* aus *sireazí*, *sirezér* aus *sireazér* entstand. Denn dass *sireaz* nicht etwa aus *siréz* durch einfluss des accentus hervorging, beweisen die aoriste 3. p. *ebék*, *ekér*, *egít*. Der accent steigert (im arm.) überhaupt keinen vocal, er erhält nur den bereits gesteigerten.”

¹¹ Stempel’s hypothesis that the participial ending *-eal* goes back to **-el* after the pattern of weak aorists in *-eac*‘ ~ *-ec-*‘ (hence e.g. **sirel*, gen.

As for the aorist of *ānkenum*, the manuscript evidence rather points to *ānkêc* ‘ as the earlier form [Meillet 1903b: 500]¹². Whatever the exact formal analysis of this verb, it cannot therefore be adduced as evidence for an invariant weak aorist suffix *-ec* ‘¹³. The unique inflection of this verb has been attractively explained as an isolated survival of an iterative-causative with *o*-grade root, shifted to the aorist by the creation of a new transitive present in **-nu-*: post-PIE **song^w-éy^e/o-* > **onk^wéye-* > **unkéye-* > **unke-*, 3 sg. **unke* > **unkē* → *ānkêc* ‘¹⁴.

**-eloy* → inf. *sirel*, *-eloy* ‘love’ vs. ptcp. *sireal*, *-eloy* ‘loved’; [Stempel 1983: 66–67]) sheds no light on the origin of the latter formation, and also does not explain how *-eal* became the marker of participles to all verbs, not just those in *-em/-im* (cf. [de Lamberterie 1985b: 130; Meyer 2014: 388]).

¹² See [de Lamberterie 1982a: 26, fn. 18; Clackson 1994: 82, 216, fn. 91 with refs.]; *pace* [Klingenschmitt 1982: 249, fn. 6].

¹³ Meillet [1903b: 500–501] (cf. de Lamberterie apud [Klein 2007: 1082, fn. 39]) proposed that *ānkenum* reflects **ānki-nu-* by lowering of **i* > **e* before **u* in a following syllable; the presuffixal **ānki-* in turn is the regular reflex of pretonic **ānkê-*. However, the sound change in question is not entirely secure (cf. [Meillet 1894: 164–165], [Meillet 1900: 400] (“un changement assez énigmatique”), [Meillet 1903a: 32, 1936: 55; Grammont 1918: 247], [de Lamberterie 1978: 269 with fn. 137] (“phénomène (...) sans régularité”), [Klingenschmitt 1982: 234–235, fn. 7] (critical), [Clackson 1994: 95 with 220, fn. 47, 126–127, 1999–2000: 33]; rejected by Olsen [1999: 169 fn. 314]), and *ānke-nu-* ~ *ānkê-c-* would be the only such intraparadigmatic alternation to survive in the entire verbal system.

¹⁴ See [Godel 1965: 26, 37, 1969: 256, 1970: 142–143, 1975: 128, 1982a: 10; Barton 1988; Viredaz 2003: 76, fn. 86; Klein 2007: 1074–1075 with fn. 30]. As Barton pointed out, the expected transitive pres. †*ānkanem* beside *ānkanim* ‘fall’ would have been blocked by the already existing *ānkanem* ‘weave’. Kortlandt [1987: 51 (2003: 81)] objects that the sequence **-eye* in the 3 sg. would have contracted to **e*, not **ê* (cf. PIE **tréyes* > *erek* ‘three’), but a sound change of word-final **-e* > **-ê* would account for the vocalism and seems to have no exceptions. Viredaz [2008, § 4.2.3] proposes that *ānkêc* ‘ continues **song^w-éy^e/o-* + **-sk^e/o-* directly, with a sound change of **-esk-* > **-eyc-* (hence pre-Arm. **song^w-eye-sk^e-t* > **unkeyc* ‘ > *ānkêc* ‘; cf. **presg^wu-* > *erêc* ‘elder’), but the reflex of **-sk^e/o-* was probably suffixed at a relatively late date; see below, § 7.

More difficult to explain is the failure of the change **nK^w* > **wK̂* known from *awc-* ‘anoint’ < PIE **h₂ng^w-* (Lat. *unguō*), *awj* ‘snake’ < PIE **áng^{wh}i-* ~

3. Weak aorists in *-ac*‘ and *-eac*‘

As noted in § 2, Karstien [1956a: 221 ff.] was the first to see that the origin of the weak aorists in *-eac*‘ had to be investigated in conjunction with the small group in *-ac*‘, namely *gitac*‘i ‘knew’, *asac*‘i ‘said’, *karac*‘i ‘could’, *mart‘ac*‘i ‘id.’. He pointed out that the great majority of Armenian presents in *-em* continue not PIE simple thematic presents in **-e/ō-*, but secondary formations in **-ey^é/ō-* ([Karstien 1956a: 222]), above all denominatives in **-e-y^é/ō-* to thematic nominal bases, e.g. *gorcem* ‘make, do’, *gnem* ‘buy’ ← *gorc* (*o*) ‘work’, *gin* (*o*) ‘price’¹⁵. From such cases, *-em* was extended to nominal bases belonging to other inflectional classes, to become the default denominative (12) as well as factitive (13) present suffix in the language:

- (12) *sirem* ‘love’ ← *sêr* (*o*) ‘love’
bžškem ‘heal’ ← *bžišk* (*a*) ‘doctor’
t‘agaworem ‘rule as king’ ← *t‘agawor* (*a*) ‘king’
nšanakem ‘denote, make clear’ ← *nšanak* (*a*) ‘sign’
cařayem ‘serve’ ← *cařay* (*i*) ‘servant’
anuanem ‘name’ ← *anun* (*n*-stem, gen. *anuan*) ‘name’

**ng^{wh}éy-* ‘water snake, serpent’ (Lat. *anguis*, OHG *unc*) [Kim 2016b: 41 fn. 6 with refs.]: it may have been operative in **H_enK^w-*, but blocked after syllabic nasal in **snK^w-* [Winter 1962: 257–8], or restricted to **HnK^w-* [Woodhouse 2015: 269]; others take **g^w* to be generalized from PIE root aor. mp. **séng^w-* ~ **snġ^w-* [Klingenschmitt 1982: 181–182], or question the traditional comparison with Goth. *sigqan* ‘sink’ [Ravnæs 1991: 41; Beekes 2003: 204]. As for the third likely example of this change, *awjik*‘ ‘collar’ < post-PIE **ang^{wh}-io-*, I see no need to assume a historically related development in Gr. *ἀνχίη* ‘neck’ beside Aeol. *ἄμφην* (*pace* [Sowa 2006]; overlooked in [Kim 2016b: 45–46 fn. 18]); the resemblance of the Armenian and dialectal Greek forms may be explained through borrowing, from pre-Armenian into pre-Greek or perhaps from a third language into both (cf. [Pisani 1950b: 191–192 (1978: 284–285)], [Clackson 1994: 107–109; Beekes 2010: 174; EDAIL: 154; Woodhouse 2015: 268]).

¹⁵ *Gorcem* could also continue a PIE iterative **worġ-éy^é/ō-* [Meillet 1936: 105], but the (near-)total absence of secure instances of this formation in Armenian rather speaks for a denominative [Klein 2007: 1082]; see below, fn. 16).

- (13) *srbem* ‘purify, make holy’ ← *surb* (*o*) ‘pure, holy’
azatem ‘free’ ← *azat* (*a*) ‘free’
manrem ‘make small, break into pieces’ ← *manr* (*u*) ‘small’
hnazandim ‘obey’ ← *hnazand* ‘obedient’

Examples such as *bžškem*, *nšanakem*, and *hnazandim* show that the formation remained productive into the period of Parthian domination, i.e. at least until the immediate prehistory of the classical language¹⁶.

Although nowhere explicitly stated, Karstien took *-ac-* to be the original aorist suffix associated with simple thematic presents in **-e/o-*; he compared the *a* of this suffix with the **-ā-* of Balto-Slavic preterital stems, e.g. Lith. *dirb-o* ‘worked’, OCS *pīs-a* ‘wrote’, as well as Latin *er-ā-* ‘was’ and the imperfect suffix *-bā-*. These provided the model for the denominative presents: at a stage when the latter still ended in **-ey^e/o-*, a corresponding aorist in **-eyā-* was created (so also tentatively Karstien 1956b: 97 “arm. *gorceac* = **uorǵ(ei?)ā-ske-t*”). In addition to the parallel of Slavic imperfects in *-jaaše* (< **-jěaše*) to presents in *-iti*, e.g. *val’aaše* ‘was rolling’ to *valiti* ‘roll’, he also compared Latin subjunctives to second-conjugation presents: “vgl. *gorces* : *gorceac* = lat. *monēs* : *moneat*, d.h. *gorces* und *monēs* mit **-eye-*, *gorceac* und *moneat* mit **-eyā-*” (222–223).

Karstien’s main insight has since been adopted by several other researchers, although with varying accounts of the suffixal vocalism. Before advancing his own very different hypothesis (see above, § 2), Godel [1965: 39–41] followed Karstien’s account of the weak aorist,

¹⁶ For further examples and discussion, see [Meillet 1903a: 77, 1936: 105; Godel 1975: 123] and especially [Klingenschmitt 1982: 139–143]. A very few presents in *-em* may continue (post-)PIE iteratives in **R(o)-éy^e/o-*, e.g. *k’orem* ‘scratch’ beside *k’erem* ‘scratch off, peel off’ to PIE **(s)ker-* ‘cut off, scratch’; *ařog(an)em*, *ořog(an)em* ‘water, irrigate’ < **srow-éye/o-* to PIE **srew-* ‘flow’ ([Godel 1965: 26], but cf. [Klingenschmitt 1982: 204]); and perhaps *lizem* ‘lick’, if from **loyǵ^héy^e/o-* (cf. Lith. *laižyti*; but probably from **leyǵ^{he}/o-* ← PIE **lég^h-* ~ **liǵ^h-*; see below, fn. 74). See [Karstien 1956a: 222; Klingenschmitt 1982: 142, 209], [Solta 1984: 69] (“verhältnismäßig selten”), [Klein 2007: 1082, fn. 39] (“no clearly demonstrable instances in Classical Armenian of Indo-European causative-iteratives in *o*-grade root + *-éye/o-*”).

observing that the suffix *-ac'* appeared to be added directly to the PIE perfect stem **woyd-* in *git-ac'i* ‘knew’ and positing an original alternation of *-V-c'* vs. *-C-ac'*. Similarly, de Lamberterie [1982a: 26–27, 33–35, 1992: 270–271] analyzed *gitac'* ‘knew’ and *greac'* ‘wrote’ as respectively **gêt-* and **gr-e-* plus the suffix *-ac'*, and argued that the other verbs with irregular aorists in *-ac'* (*as-* ‘say’, *kar-* ‘be able’) also go back to old perfects. K. H. Schmidt [1980b: 43–44] (cf. [1985: 227]) explicitly derived *gitac'* and *gorceac'* from preforms **uoidāsket* and **uorǵeǵāsket*, respectively, with *-eac'* spreading from *e*-presents at the expense of “the older formation” *-ac'*¹⁷. Klein [2007: 1074–1075], like Karstien, assumes a pivotal role for the aorists in *-ac'*: “perhaps on the model **woid-e-ti* ‘knows’ (> *gitē*, refashioned from **woide*, an old perfect): **woid-a-skē-e-t* ‘knew’ (> *gitac'*), an original **worǵey-e-ti* ‘makes, works, does’ (> *gorcē*, denominative to *gorc* ‘work’) assumed an aorist stem **worǵey-a-skē-e-t* (> *gorceac'*)”; he also equates the *-a-* of Arm. *-ac'* with Lat. impf. *-ā-* and Slavic nonpresent **-a-*. Finally, Viredaz [2015, § 1.4.3–4] also connects the aorist marker **-a-* with the Latin imperfect and Balto-Slavic preterite and suggests “sous toutes réserves, que l’opposition apparue entre prés. **worǵey* > *gorce-* et impf. **worǵey-ā-* > aor. **gorcia-* (+ *-c'e-*), d’où *gorcem* : *gorceac'*, se soit étendue hors de son domaine d’origine.”

A somewhat different approach was taken by Klingenschmitt [1982: 135–136, 286], who like de Lamberterie claimed that aorists in *-ac'* were originally formed to presents in *-e-* of perfect origin, which inflected as 1 sg. **-a-mi*, 3 **-e-ti* ← PIE pf. **-h₂e*, **-e*¹⁸. Before the

¹⁷ Cf. also [Stempel 1983: 63–64, 66], [Barton 1990–1991: 45] (“*sireac'* < **-e-ǵ-ā-ske-t'*”). However, Schmidt takes the *e* of *-eac'* to be “the thematic vowel of *e*-presents” [K. H. Schmidt 1980b: 43], as also de Lamberterie [1982a: 26] and Clackson [1994: 82]; correctly [Solta 1984: 69] (“[d]em Element *-a-* kommt die bedeutungstragende Funktion für das Vergangenheitstempus zu [...] [das] *-e-* von *-eaç-* ist mit dem Reflex von **-eǵe* der armen. Deverbativa und Denominativa [zu identifizieren]”). Schmidt’s view that the suffix **-ac^h-* spread from the *a*-presents also cannot be upheld; see § 7 below.

¹⁸ A connection between perfect origin and aorist in *-ac'i* was already floated by Meillet [1892: 164], who compared *asem* ‘say’ with Ved. *āha* ‘said’: “l’aoriste *asaçi* présente la même irrégularité que *gitaci*, aoriste de

thematic vowel *-e-* was generalized, the 1 sg. stem in **-a-* served as the basis for the new weak aorist, according to the proportion **geitá-mi* ‘know’ : aor. **geitá-c’* :: **keá-mi* ‘live’ : aor. **keá-c’* - and other presents in *-a-*. The pattern of pres. **-e-* : aor. **-ac’* - then served as a model for presents in *-e-* < **-ee-* < PIE **-eye-*, which acquired an aorist in **-eac’*-, whence the attested *-eac’* ~ *-ec’*-. Clackson [1994: 82] (cf. [1999–2000: 32–33]) likewise thought that the aorist morpheme *-ac’* - was added directly to **gêt* < PIE pf. **wóyd-* at a time when this and other “ancient perfects...would not have been incorporated into the *-em* class”, whereas “[f]or the majority of verbs of the *-em* class, the morph *-ac’i* is added to the stem *-e-*, as *gre-* from *grem* ‘write’, to give **greac’i* > *grec’i*.” Based on their distribution, he concluded that the markers *-c’-* < **-sk’-* and *-ac’-* < **-ǎsk’-* originated in aorists to presents in *-num* and *-am*, *-anam* and spread from there to verbs in *-em* and *-im* (cf. also [Meyer 2014: 390]).

Klingenschmitt’s explanation was criticized by Stempel [1983: 65–66] on the grounds that generalization of the 1 sg. stem vowel **-a-* in the aorist, but not the present, is *a priori* unlikely; he also noted that *gitem* and the other three “Perfektopräterita” are an improbably small basis for the spread of the aorist suffix. Peters [1997: 209–10] further pointed out that remodeling of PIE **wóyd-* ~ **wid-* to an athematic present **wóyd-mi*, **-si*, **-ti* would be unexpected given the complete disappearance of athematic inflection in Armenian¹⁹; direct thematization to **woyde-* > **gêt-e-* > *gite-* would be much more probable. Like Schmidt, Peters set up aorist preforms **uoid-ǎ-* and **uorǎej-ǎ-* to present **uoid-e-ti* and **uorǎej-e-ti*, but preferred to connect **-ǎ-* with the *-η-* of Homeric Greek pluperfect *ἤδ-η* ‘knew’. We will return to the Indo-European background of the weak aorist suffix in § 7, but first we must consider some inner-Armenian problems which have remained largely overlooked.

gitem (autre présent tiré de parfait).” Kortlandt [1996a: 40 (2003: 114)], after mentioning “the major types in *-em*, *-ec’i* and *-am*, *-ac’i*”, also states that “[t]he mixed type *-em*, *-ac’i* seems to reflect the PIE. perfect.” On the etymology of *asem*, see § 4.

¹⁹ In contrast to Slavic, where at least ‘eat’ and ‘give’ were available as models for PIE **wóyd-* ~ **wid-* → **wóyd-mi*, 3 sg. **-ti*, 3 pl. **-nti* > OCS *věmĭ, věstŭ, vědětŭ* (cf. *jamĭ, jastŭ, jadětŭ* ‘eat’, *damĭ, dastŭ, dadětŭ* ‘give’).

4. Problems with the standard model

The hypotheses described in § 3 have the great advantage of providing an explanation for both the weak aorists in *-ac*‘- and the far more numerous aorists in *-eac*‘ ~ *-ec*‘-, but they suffer from two weaknesses. First, none of them offers an adequate explanation for the peculiar distribution of the two formants *-eac*‘ and *-ac*‘, specifically the restriction of the latter to the four verbs *asem* ‘say, tell, speak’, *gitem* ‘know’, *karem* ‘can’, *mart’em* ‘can’²⁰. What unites these particular verbs, and why should their aorists differ from that of the overwhelming majority of presents in *-em*? In particular, is there sufficient support for the view that the weak aorist suffix *-ac*‘- was originally proper to old perfects, as claimed by Klingenschmitt, de Lamberterie, and Clackson?

The main difficulty here is that only *gitem* has an absolutely secure PIE source, the remaining three verbs being etymologically “mehr oder weniger unklar” [Klingenschmitt 1982: 137]. All scholars agree that *gitem* < **gēt*-‘ is a remodeling of the PIE perfect **wóyd*- ~ **wid*-‘ known from e.g. 1 sg. Ved. *véda*, Gr. *oída*, Goth. *wáit* < PIE **wóyd*-*h*₂*e*.²¹ That *asem*, *karem*, and *mart’em* have meanings commonly associated with reflexes of stative perfects in other Indo-European languages is suggestive, but hardly constitutes proof that they too go back to (post-)PIE reduplicated perfects of the familiar classical type (*pace* [Klingenschmitt *op. cit.*; Clackson 1994: 81, 82; Peters 1997: 209]). In particular, *asem* need not continue a (post-)PIE perfect **h*₁*e*-*h*₁*óǵ*- ~ **h*₁*e*-*h*₁*ǵ*-‘ ([Klingenschmitt 1982: 138]; cf. Gr. *ἄν-ωγα* ‘command’)²², but can simply reflect a PIE root present **h*₁*éǵ*-

²⁰ A possible fifth verb of this type is *merkem*, aor. *merkac*‘i ‘undress’, denominative to *merk* ‘naked’ (ultimately of PIE origin, cf. [HAB: III, 308; EDAIL: 464–465]). But the fientive *merkanam*, aor. *merkac*‘ay is also attested from an early date and could perhaps be the source of the aorist in *-ac*‘i, while the variant *merkec*‘i (*merkeac*‘) could be the original aorist of *merkem*.

²¹ Cf. [Meillet 1903a: 83, 1936: 112; Schmitt 1981: 52, 54, 134] and the references in [EDAIL: 211].

²² This would require that **h*₁*e*-*h*₁*óǵ*- ~ **h*₁*e*-*h*₁*ǵ*-‘ > **óǵ*- ~ **éǵ*- underwent analogical adjustment of ablaut to **óǵ*- ~ **aǵ*-, followed by generalization of the plural vocalism and of the final consonant *[k] from

~ **h₁ǵ-* (cf. Gr. $\tilde{\eta}$ ‘said’ < aor. **e-h₁eǵ-t*) which was independently thematized in Lat. *aiō* ‘say’ ← **h₁ǵ-y^é/o-*²³. The irregular reflex of PIE *ǵ was generalized from 2 sg. **h₁eǵ-si*, 3 sg. **h₁eǵ-ti*, 2 pl. **h₁ǵ-té*, where the root-final stop was devoiced to **k* > Arm. *s*, as already suggested by Brugmann [1913: 103]²⁴.

As for *karem* and *mart'em*, the general consensus seems to be that these verbs are not inherited directly from PIE (neither is listed in *EDAIL*). De Lamberterie [1982a: 33–35] proposes to derive *karem*

2 sg. **[ōk-t^ha]* alone. The alternative connection with Ved. *āha* ‘said’ is “[l]autlich unmöglich” ([*EWAia* I: 153] s.v. *AH*²; cf. GAv. pl. *ādarā*).

²³ Hackstein [1995: 332–334] (cf. Kümmel apud [*LIV*²: 256]) reconstructs PIE **h₂eǵ-* on the basis of Toch. B /*aks-*, A *āks-* ‘announce’ < PToch. **aks-* < **h₂eǵ-s^é/o-*, but Gr. $\tilde{\eta}$ can continue **e-h₂eǵ-t* only if the backformed presents Dor. $\eta\tilde{\tau}\acute{\iota}$, Aeol. $\tilde{\eta}\sigma\acute{\iota}$ are Homericisms from “ein literarisch-episches Substrat” [Hackstein 1995: 333]. I therefore prefer to derive the Tocharian verb from a proximate preform **h₁ǵ-s^é/o-* [Adams 1999: 39, 2013: 41], or perhaps rather from **h₁ǵ-sk^é/o-* with the reduction of **KsK* > **Ks* proposed by Couvreur [1947: 62–63] and Peyrot [2013: 515–524, 612]; the initial **a-* must then reflect an analogical zero-grade. — Pisani’s connection of *asem* with Ved. *yásas-* ‘fame’ [1950b: 181 (1978: 273), 1952: 91–92, 1966: 228–229 (1978: 337–338)] is untenable; see [*EWAia*: II, 153 s.v.]

²⁴ See also [*IEW*: 290] s.v. *eǵ-* and the references in [*EDAIL*: 103, 118], to which add [G. Schmidt 1973: 58–61] and [Lindeman 1974: 157] (*as* < **ǵ₁ǵ-tó(i)*). There is thus no need to postulate a general change of pre-Arm. preconsonantal **c* > *s* to explain this verb and *es* ‘I’ [Klingenschmitt 1982: 138]; *pace* [Meillet 1892: 164, 1903a: 16, 34, 1936: 37, 57; Brugmann 1904: 506]; also unnecessary is the assumption of a root-final laryngeal in 3 sg. *(*e*)*HǵH-t* > **act^h* > **ast* [Hamp 1970: 230–231; Greppin 1983: 302]; see [G. Schmidt *op. cit.*] on PIE **d^hugh₂tér* → **-ukt-* > **-ukt-* > *dustr* ‘daughter’, with laryngeal loss generalized from obl. **d^hugh₂tr-*. Rix (apud [Hackstein 1995: 334]) derives *asem* from PIE **h₂ǵ-y^é/o-* with *-s-* for *-c-* after aor. 3 sg. **as* < **h₂eǵ-t* [-kt], but there are to my knowledge no other examples of PIE **-y^é/o-* present beside root aorist preserved in Armenian. — According to the standard view ([*EDAIL*: 103] with refs.), the expected reflex of PIE *ǵ is preserved in *ar-ac* ‘proverb’, but the latter renders Gr. $\lambda\eta\mu\mu\alpha$ ‘what is received’ in the Christian sense of ‘burden, task (received by a prophet); prophecy’ and is thus rather a deverbal noun to *arnum* ‘take’ [Klingenschmitt 1982: 137–138, fn. 2; Olsen 1999: 238, fn. 56], both referring to [*HAB* I: 249].

from a dereduplicated PIE perfect $*g^w e-g^w \acute{o}rh_2-$ ~ $*g^w e-g^w \grave{h}h_2-$ to the otherwise unattested verbal root $*g^w erh_2-$ underlying $*g^w \grave{h}h_2-ú-$ ‘heavy’ (Ved. *gurí-*, Gr. *βαρύς*, Lat. *gravis*, Goth. *kairus**). But as he admits (34), there is no formal basis for assuming a perfect preform; specifically, there is no trace of the *o*-grade that survives in *gitem* and in *goy* ‘there is’, which for that reason must continue PIE $*w\acute{o}yd-$ and $*h_2e-h_2w\acute{o}s-$, respectively. The semantic argument is also weak: in particular, the existence of the deverbal adjectives *gitun* ‘learned’, *asun* ‘able to speak’, *č‘mart‘un* ‘incapable’ and *karol* ‘able’ (35–45) reflects the synchronic stative value of these verbs, and does not require that they go back to PIE perfects. Klingenschmitt [1982: 138–139] entertains this possibility as well, comparing among others Gr. *βρίθω* ‘am heavy (with)’ < $*g^w riH-d^{he}/o-$ (?)²⁵, but prefers to take *karem* as denominative to *kar* ‘power, strength, ability’ (cf. *kari* ‘very’, *tkar* (a) ‘weak’, *ankar*, *apikar* ‘powerless, impossible’), a loanword from Middle Iranian $*k\check{a}\delta a-$ ‘id.’.

With respect to *mart‘em*, the only conceivable etymology connects *mart* ‘possible, possibility’ < PIE $*mag^h-tro-$ to the root of Goth. *mag*, OCS *mogō* ‘can’ (Lidén apud [Holthausen 1927: 191]; cf. [IEW: 695; Klingenschmitt 1982: 139; de Lamberterie 1982a: 33])²⁶. This in turn raises another difficulty: if *karem* and/or *mart‘em* is of denominative origin, their weak aorist stems should have ended in $*-eac-$, just like *gorceac* ‘, *sireac* ‘, etc. (§ 3). Klingenschmitt [*op. cit.*] must therefore assume that they analogically adopted $-ac-$ after a since disappeared verb for ‘be able’ of perfect origin, which is not impossible, but obviously cannot be proven²⁷.

²⁵ However, Beekes [2010: 239] points out the difficulties in connecting *βαρύς* and the family of *βρί*, *βριαρός* ‘strong’, *βρίθω*, etc. and posits a “Pre-Greek origin” for the latter etymon.

²⁶ Olsen [1999: 200, 846] argues instead for $*mag^h-s-tro-$, comparing the Gr. *s*-stem *μῆχος* ‘means, remedy’, but the latter has no equivalents outside Greek and need not be old.

²⁷ In fact, *mart‘em* need not be a denominative: given the frequency of the collocations *mart‘ê* + inf. ‘it is possible (that)’, *oč‘ê mart‘* + inf. ‘it is not possible (that)’, speakers could easily have reanalyzed *mart‘ê* as an inflected verb *mart‘ê*, whence the full paradigm and also *mart‘i* + inf. in the

In sum, while *gitem* goes back to the archaic PIE unreduplicated perfect **wóyd-* ~ **wid-*, *asem* probably continues a root present, and *karem* and *mart'em* are not even securely assignable to the inherited lexicon of Armenian. Given this uncertainty, it is unlikely that the exceptional morphology of this small group can be motivated on etymological grounds.

The second problem with the hypothesis in § 3 is phonological, and concerns the treatment of intervocalic **y*. All historical grammars of Armenian since Meillet [1903a: 29] have agreed that PIE **y*, like PIE **s*, was lost between vowels in the prehistory of the language, with resulting contraction of vowels in hiatus; the classic example is the nominative of ‘three’, *erek'* < PIE **tréyes*²⁸. After pre-Armenian presents in **-eye-* had created aorists in **-eyac-*, the present suffix likewise contracted to **-e-*, whence e.g. *gorcem*, *sirem*, and the other denominatives in *-em*²⁹. Why then did the aorist suffix not contract to *-ac-*, thereby falling together with that of *asac'i* ‘said’? As the following examples demonstrate, (post-)PIE sequences **-VsV-* underwent contraction, with **-esa-* > **-eha-* > *-a-* as in *ar-iwn* ‘blood’ and *gar-un* ‘spring’³⁰.

impersonal sense ‘one can X’. On the distribution and usage of these constructions, see [de Lamberterie 1982a: 30–33].

²⁸ Cf. already [Hübschmann 1883: 77, 78] (“im Inlaut öfter geschwunden”) and see [Meillet 1936: 52; Schmitt 1981: 71, 73–74; Ravnæs 1991: 64; Beekes 2003: 162].

²⁹ Cf. the formulation of [Karstien 1956a: 222]: “das im Präs. auf *-eye-* zurückzuführende *-e-* im Aor., vor dem nachfolgenden Imperf. *-ā*, [wird] als Fortsetzung von bloßem *-ey-* zu verstehen sein.”

³⁰ On these two forms in particular, see [Hübschmann 1897: 432–433] (*garun*), [Hübschmann 1899: 44] (*ariwn*), [HAB I: 317] (*ariwn*), [Meillet 1936: 38–39; Pisani 1951: 63; Godel 1965: 40] (*garun*), [Schindler 1966: 77, fn. 2; Normier 1980: 56 with fn. 54], [Schmitt 1981: 74, 76, 78; Hamp 1983: 8 with fn. 9; Stempel 1990: 50–51] (*ariwn*), [Ravnæs 1991: 27, 102; Kortlandt 1996b: 57 (2003: 118); Olsen 1999: 153, 156, 786] (*garun*), [Olsen 1999: 490–491] (*ariwn*), [EDAIL: 138, 201]. Alternative hypotheses are unnecessary, including assimilation of **ehar* > **ahar* ([HAB: I, 524] **wehar-* > **ga(h)ar-* > *garun*, [Szemerényi 1960: 21; Djahukian 1990: 11]), prehistoric dialect differences (**ea* > *a* in *ar-*, *gar-* vs. *e* in *k'erb*, *jerb*; [Winter 1966: 202]), lowering of **e* > **a* ([Clackson 1999–2000: 34–35]; cf. already [Pedersen 1906: 416]), laryngeal vocalization ([Kortlandt 2001;

- a) PIE **h₁ésh₂r* > **ehar* → *ar-iwn* ‘blood’.
 b) PIE **wésr* > **wehar* → *gar-un* ‘spring’.
 c) PIE instr. **swésr-b^hi*, **ǵ^hésr-b^hi* > **k^heharbi*, **jeharbi* > **k^harb*, **jarb* → *k^herb* ‘with/by the sister’, *jerb* ‘with/by the hand’ (in *jerb-a-kal* ‘prisoner’ < **taken by hand*) after gen./dat./loc. *k^her^h*, *jern^h*³¹.

The evidence of *ariwn* and *garun* suggests that pre-Armenian **-eyac* ‘- should likewise have developed to **-eac* ‘- > *-ac* ‘-. Why then did that sequence resist contraction and survive into the classical language as act. 3 sg. *-eac* ‘, alternating with pretonic **-eac* ‘- > *-ec* ‘-?³²

As far as I am aware, this problem has been acknowledged only by Godel [1965: 40], who speculated that the absence of contraction of **-e(y)a-* > *-a-* could be “l’indice d’une formation relativement récente”, comparing the contrast of Attic Greek *πλέουσι* ‘they float’ < **πλέφουσι* and *ποιοῦσι* ‘they make’ < **ποιέjouσι*. Godel rightly rejects the alternative of analogical influence from the notoriously opaque

Beekes 2003: 160] PIE **h₁ésh₂r* > **ehar* → *ar-iwn*; [Clackson 1999–2000: 35–37] **h₁sh₂r-* > **ahar-* > *ar-*), and generalization of **o* from the oblique stem of an acrostatic PIE **h₁ésh₂-r* ~ **h₁ósh₂-ŋ-* → **h₁ósh₂r* > **ohar* → *ar-iwn* [Friedman 2002]. See also fn. 31 below.

³¹ See [Meillet 1903a: 58, 1936: 83; Hamp 1969: 17, 1983: 10; Schmitt 1981: 78] (*pace* 44, 73 [**-e(h)ar-* > *-er-*]), [Ravnæs 1991: 27; Olsen 1999: 153; Klein 2007: 1058]; otherwise [Klingenschmitt 1982: 99] with fn. 17 (PIE **swésr-b^hi*, **ǵ^hésr-b^hi* → **k^herbi*, **jerbi* or **k^hehrbi*, **jehrbi* > *k^herb*, *jerb* with generalized prevocalic allomorph from gen./dat./loc. PIE **swésr-*, **ǵ^hésr-* > **k^hehr-*, **jehr-*; for the latter option see also [Kortlandt 1996b: 57, 2001: 11 (2003: 118, 131)]), [Clackson 1999–2000: 29] **-esr-* > **-ehar-* > *-er-*, [Viredaz 2000] **eh_g* > **er* before a consonant in pre-Armenian and pre-Greek. *Pace* [Clackson 1999–2000: 29–31] and [Viredaz 2000: 291–292], the archaic paradigm of *k^hoyr* hardly excludes an analogical source for the vocalism of instr. *k^herb*; note that under most analyses, acc. *k^hoyr* has simply been taken over from the nominative, replacing expected †*k^hor* < **kehoran* < PIE **swésorm* (see below, fn. 48). See also fn. 35 on instr. *harb*, *marb*, *elbarb*.

³² I do not understand Clackson’s claim that “the contraction of *-eac* ‘ to *-ec* ‘- provides a further example of a contraction of **-e-a* to *-e-*” [1999–2000: 33]; see above, fns. 30, 31). As observed by him on the preceding page, the alternation of *-eac* ‘ ~ *-ec* ‘- in the weak aorist suffix is entirely regular and parallels that of *nearđ* ‘sinew’ ~ gen. *nerdi*, *learn* ‘mountain’ ~ gen. *lerin*, etc.

imperfect, i.e. restoration of **gorce-ac^h-* after **gorce-i-*; but such remodeling would not have worked in any case, at least not if one adopts the view of Karstien and others that the weak aorist suffixes *-ac'* and *-eac'* were originally associated respectively with simple thematic presents in PIE **-e^h/o-* and denominatives in PIE **-e-y^h/o-*: once the latter had fallen together with the former, their inflections would have become completely identical, and there would have been no basis for restoring **-e(y)a-* in the aorist. The same objection applies to the suggestion of Clackson [1994: 216, fn. 97] that “the spread of *-ac'* may have occurred at a later stage of the language.”

5. The fate of PIE intervocalic **y* in Armenian

In fact, the evidence for contraction of vowels across a hiatus resulting from loss of PIE **y* is not nearly as robust as long assumed. A glance at the major reference works [Godel 1975: 75–76; Schmitt 1981: 73–74; Olsen 1999: 782–786; Beekes 2003: 160] reveals that most of the commonly cited cases do not involve loss of PIE **y*, but rather of PIE **i*³³. I have argued elsewhere that intervocalic **t* did not in fact pass through a stage **[j]*, but instead was first lenited to **[ð]*; the subsequent development to **[j]*, **[w]*, or **[Ø]* depending on the neighboring vowels has close parallels in other languages, including Faroese [Kim 2016a: 160–161]³⁴. Forms such as the following thus never had **y* at any point, and consequently are of no probative value for the treatment of (post-)PIE intervocalic **y*.

a) PIE **ph₂tr^hi* > **haðarβi* > **haarβ* > instr. sg. *harb* ‘with/by father’ (sim. *marb* ‘with/by mother’, *elbarb* ‘with/by brother’)³⁵.

³³ Godel [1975: 81] explicitly operates with two stages of loss: “Intervocalic **-y-* dropped very early (...) as did, centuries later, PA **-y-* < PIE **-t-*.”

³⁴ Overlooked in my discussion was [Ravnæs 1988] (esp. pp. 231–234), which agrees with his 1991 dissertation in all points.

³⁵ The more complicated hypotheses of [Bolognesi 1949: 36–37] (dissimilation of **haðarβi* > **haβarβi* > **haarβi* > *harb*), [Matzinger 2005: 118, 127–128, 130] (**haθarβi* > **haβarβi* > **haarβi* > *harb* with **θ* > **β* “in neutraler Umgebung”), and [Klingenschmitt 1982: 99] (PIE **ph₂tr^hi* → **faθr-bi* > **farβi* > *harb* with generalized prevocalic allomorph from e.g. gen. **faθr-os*) are unnecessary; see [Kim 2016a: 161 with fn. 48].

b) PIE **ph₂téres* > **haðer-* > **haer-* → nom. pl. *hark* ‘fathers’ (sim. *mark* ‘mothers’, *elbark* ‘brothers’).

c) PIE **k^wetwóres* → **k^wetóres* > **č^heðor-* > **č^heor-* > *č^hork* ‘four’.

d) PIE **k^wotero-* ‘which (of two)’ → **oðer-* > **oer* > *or* ‘which’³⁶.

Once such cases are set aside, there turn out to be very few assured examples of PIE intervocalic **y* in Armenian³⁷. Aside from *erek* ‘three’ < PIE **tréyes*, the only certain case seems in fact to be presents in *-e-* < **-eye-* ← PIE **-ey^e/o-* themselves³⁸. Viredaz [2001–2002: 3] and Beekes [2003: 162] cite *i*-stem nom. pl. *-k’* < **-ek’* < PIE **-eyes*, but it goes without saying that this ending, common to all noun inflection classes, need not have evolved by sound change alone³⁹. Cowgill [1960] famously compared *oč’* ‘not’ with Gr. *οὐκ(ί)* ‘id.’ and derived both from PIE **(ne) h₂óyu k^wíd* ‘never’, but the lack of parallels for contraction of **oyu* > **ou* > **o* casts doubt on this etymology [Clackson 1994: 158].⁴⁰ Finally, *ji* ‘horse’ has long been compared with Ved. *háya-*, but the vocalism

³⁶ Cf. [Schmitt 1981: 74, 123; Olsen 1999: 151–152, 783, 786, 806; Viredaz 2004–2005: 85, fn. 8]. On the problem of *o-* < **k^wo-* here and in *o(v)* ‘who’, *or* ‘which’, *ur* ‘where’, etc., cf. [Meillet 1936: 89–90; Viredaz *op. cit.*], and [Kölligan 2006: 110–112] (phonological development) vs. [Bonfante & Gelb 1944: 183, fn. 72; Bonfante 1946: 89; Pisani 1966: 229 (1978: 337–338)] and the references in [EDAIL: 706] (generalization from PIE relative **Hyó-*). — The ending of the genitive personal pronouns 1 pl. *mer*, 2 pl. *jer* is generally equated with that of Lat. *nostrī*, *vestrī* or Goth. *unsar*, *izwar* [Meillet 1927: 2, 1936: 92; Schmitt 1981: 117; Djahukian 1982: 147, 150; Weitenberg 1982: 115–116; Kortlandt 1984: 100 (2003: 47)], but whether these forms continue **metero-*, **yetero-* as claimed by Olsen (1999: 783, 786); cf. [Viredaz 2001–2002: 7, fn. 35] is far from certain.

³⁷ Excluding of course sequences of the shape **-iyV-* such as *kogi* ‘butter’, *gini* ‘wine’ < PIE **g^wow-iyó-* ‘of a cow’, **woy(h₁)n-iyó-* ‘of the grapevine’. On the etymology of the latter, see [EDAIL: 214] with refs. and [Lipp 2015].

³⁸ On the present conjugation in *-am*, see § 6 below.

³⁹ See already the comments in [Meillet 1903a: 46, 1936: 70].

⁴⁰ Clackson later proposed an original meaning ‘no one’ for *oč’* and analysis as *o-* (cf. *o-k’* ‘anyone’, *o-mn* ‘someone’) + negator **č^h* (cf. *č^h-ik’* ‘nothing’). See [Clackson 2004–2005: 155–156; EDAIL: 531; Kim 2016b: 45].

raises difficulties⁴¹; a derivation from substantivized PIE $*g^hi-tó-$ ‘driven (on), set in motion’ is therefore to be preferred (de Lamberterie apud [Olsen 1999: 40, 783; Viredaz 2005–2007: 6–8; de Lamberterie 2006: 213–223]).

Given the paucity of clear cases of intervocalic $*y$, and especially the absence of incontrovertible evidence for contraction in sequences such as $*-eya-$ or $*-eyo-$, I propose that the weakening and loss of intervocalic $*y$ was followed by contraction of *like vowels only*. In contrast, sequences of $*e$ plus a back vowel were maintained, only later turning into falling diphthongs. This hypothesis creates no difficulties for the evolution of PIE denominatives in $*-e-y^e/_o-$ (and iteratives in $*-éy^e/_o-$), since the thematic vowel $*-e-$ was generalized already in prehistoric times, hence $*-eye- > -e-$ in *gorcem*, *sirem*, etc. It of course also provides a phonological explanation for the diphthong in the weak aorist suffix $-eac'$, which can continue a proximate sequence of nonlow vowel + $*a$ in hiatus⁴².

The prehistory of weak aorists in $-ac'$ and $-eac'$ may now be understood as follows. At some stage in pre-Armenian, thematic presents in $*-e/_o-$ (or perhaps already leveled $*-e-$) acquired corresponding aorists in $*-ac^h$ ⁴³. This was true not only for the handful of simple thematic presents inherited from PIE, but also for the incomparably larger group of presents in $*-ey^e/_o-$ (or $*-eye-$).

- (14) pres. $*-e/_o-$ ($*-e-$) aor. $*-ac^h-$
 pres. $*-ey^e/_o-$ ($*-eye-$) aor. $*-eyac^h-$

⁴¹ Cf. [Hübschmann 1899: 45] ($ji < *g^lhēyo-$ vs. $háya- < *g^lheyo-$ or $*g^lhəyo-$), [Pisani 1932: 27–28, n. 2] ($ji < *g^hēyo-$ with $i < *ey$ by sound change), [Godel 1975: 88–89, fn. 75] ($ji < *g^həyo-$), [Ravnæs 1988: 226] ($< *g^hēyo-$ or $*g^hiyo-$), [EDAIL: 433] ($*g^hei-o- > *jê \rightarrow ji$ after gen. $ji-oy$, etc.).

⁴² It has been suggested that $*eya$ is reflected in the ea of *keam* ‘live’ < PIE $*g^weyh_3-$ [Hamp 1976: 90–91; Klein 2007: 1074]; cf. Hom. $\beta\acute{\epsilon}\omicron\mu\alpha\iota < *g^weyh_3-/_o-$), but the diphthong of this notoriously opaque verb could also continue a pre-Arm. sequence $*iya$ in $*g^wih_3-éh_2-(y^e/_o-)$ (cf. [Brugmann 1913: 164] “ $*g^w\ddot{u}\bar{a}-m\bar{p}$ ”, [Meillet 1903a: 24, 81, 1936: 45, 110] “ $*g^w\ddot{u}\bar{y}-\bar{a}-ye-$ ”), $*g^wiyh_3-$ ([Barton 1965: 8] “ $*g^w\ddot{u}\bar{a}-$ ”, [Harðarson 1993: 210]), or $*g^wih_3-h_1y^e/_o-$ [Barton 1990–1991: 45, fn. 58].

⁴³ On the sources of this suffix, see § 7.

Following the weakening and elision of intervocalic *y, these suffixes became:

- | | |
|-----------------|---------------------------|
| (15) pres. *-e- | aor. *-ac ^h - |
| pres. *-ee- | aor. *-eac ^h - |

whence by contraction of *ee > *e:

- | | |
|-----------------|---------------------------|
| (16) pres. *-e- | aor. *-ac ^h - |
| pres. *-e- | aor. *-eac ^h - |

At this point, the now merged class of presents in *-em* was associated with two aorist formations: a small group in *-ac^h- to erstwhile *-^e/_o- presents, and a much larger group in *-eac^h- to derived presents in *-ey^e/_o-. Not surprisingly, the former tended to be transferred to the latter, as child speakers took the far more common *-eac^h- to be the default aorist formation to presents in *-em*. By the time of the earliest written documents, this process was almost complete, and the aorist suffix *-ac*^h- was restricted to *asem* ‘say’, *gitem* ‘know’, *karem* ‘am able’, and *mart* ‘em’ ‘am able’. It can hardly be a coincidence that all four of these are high-frequency verbs with the most basic semantics; being in the core of the Classical Armenian lexicon, they would have been especially resistant to the morphological change just described⁴⁴. This tendency continues into the postclassical period, where we find e.g. iptv. *gitea* ‘know!’ in Movsêš Xorenacⁱ (I, 11) for classical *gita* [Godel 1969: 256]. The stems *asac*^h-, *gitac*^h-, and *karac*^h- are retained in Cilician Armenian [Karst 1901: 319], but only the first of these survives in Modern Eastern Armenian (1 sg. *asac*^h ‘i, 2 *asac*^h ‘ir, etc.; iptv. *asa*, pl. *asac*^h ‘ĕk^h), beside regularized *asec*^h- (1 sg. *asec*^h ‘i) and occasional *as*- (1 sg. *asi*)⁴⁵.

6. Relative chronology and *a*-presents

The proposal in § 5 that only like vowels were contracted following the elision of intervocalic *y has interesting consequences

⁴⁴ Cf. [K. H. Schmidt 1980b: 43]: “The fact that the *eaç*-aorist did not spread analogically to [these] verbs (...) may be a result of the high text frequency of these verbs.”

⁴⁵ See [Dum-Tragut 2009: 230 with fn. 175, 282 with fn. 207].

for Armenian historical phonology and morphology. First, it implies that the loss of intervocalic *y was later than that of pre-Arm. *h < PIE *s, or of pre-Arm. *ð < PIE *t. This runs counter to the widespread assumption that PIE *s and *y were lost at the same time, one that however seems to have no actual support in the recoverable relative chronology of pre-Armenian sound changes. For instance, Kortlandt [1980: 101 (2003: 29)]; cf. [Beekes 2003: 209] assigns loss of *h (< PIE *s) and *y to step 10 in his relative chronology of changes from PIE to Armenian, along with lenition of voiceless stops to fricatives, and offers the following commentary:

The loss of *h (from PIE *s) in various positions and its assimilation to a following *r can perhaps be dated to the same stage as the lenition.... The loss of intervocalic *h was probably posterior to the development of *ō into u, but anterior to the development of *eu into oy, cf. k'oyr 'sister', Skt. svāsā. The loss of intervocalic *y must be dated to an earlier stage: it was posterior to the development of *ē into i, but anterior to the loss of phonemic quantity because the long vowel was not preserved in erek', 'three', Skt. trāyah⁴⁶.

Ravnæs [1988: 231, 1991: 47, 106] likewise posits *ē, *ō > *i, *u, followed by loss of *-h- (< PIE *-s-) and *eu > *ou to account for PIE *swésōr > k'oyr 'sister'; see respectively nos. 20a, 22a, and 41 in the relative chronology in [Ravnæs 1991: 173–81]⁴⁷. The loss of intervocalic *-y-, "possibly also via *-h-, probably occurs at the same time" as that of *-h- < PIE *-s- ([Ravnæs 1991: 175], step 22b).

However, as pointed out by Clackson [1994: 51, 53], a development *-ehō- > *-ehu- > *-ew- > -oy- is hardly the only one possible for 'sister', especially given the continuing uncertainty over the regular outcome of inherited PIE *ew⁴⁸. As for the dating of loss of

⁴⁶ The argument from 'sister' goes back at least to Meillet [1903a: 18, 1936: 39]; cf. also [Pisani 1951: 56–7 (1978: 297)].

⁴⁷ Ravnæs assumes that "the loss of phonemic quantity [was] simultaneous with the loss of old *ē and *ō" ([1991: 68, fn. 1]; cf. nos. 20a and 20b on p. 175), but this is inherently implausible: surely first *ē, *ō were raised to *ī, *ū, and only later was contrastive length lost.

⁴⁸ Other proposed scenarios in the literature include diphthongization in PIE *swésōr > *hweuhur > *k^hou(h)ur > k'oyr ([Klingenschmitt 1982: 153–154; Olsen 1999: 153]; cf. awr 'day' < (post-)PIE *āmōr or

intervocalic *y, Clackson observes that the sequence *ee in *tréyes ‘three’ may have contracted to a long vowel distinct from the reflex of inherited PIE *ē and merged instead with PIE *e; similarly for the sequence *oo in PIE *b^hoso- ‘bare’ → *bohoko- > bok ‘barefoot’.

More recently, Viredaz [2001–2002] proposes that contraction of sequences *VyV, *VwV, *VsV took place before the assignment of stress to the penultimate: hence the *i*- and *u*-stem nom. pl. ending evolved regularly from PIE *'-eyes, *'-ewes > *'-eek^h > *'-ek^h > -k' (3), and strong aorists with apparent *o*-grade root would continue imperfects of PIE iteratives in *R(o)-éy^é/_o-, e.g. *eboyc* ‘nourished’ < *ebówceye < PIE *e-b^howg-eye-t (4–5; cf. [de Lamberterie 1985a]). In contrast, the loss of intervocalic *ð < PIE *t postdated the fixing of stress, so that word-final sequences *VðV developed to *VyV or *VwV rather than undergoing contraction. But the *i*- and *u*-stem nom. pl. -k' need not have arisen by sound change (see above, § 5); and *pace* Viredaz, strong aorists such as *eboyc* may well continue thematized root aorists as traditionally assumed, in this case *e-b^hewg-e-t ← PIE *e-b^hewg-t⁴⁹. As for intervocalic *ð,

*āmy); PIE *ew > *iw followed by contraction of *-ehu- > *-ew-; or different developments of pre-Arm. *-eu- and *-eō- [Clackson 1994: 210, n. 77]. One cannot even entirely exclude the idea of Grammont [1918: 244] that *k'oyr* goes back to acc. *swésorm̄ > *hwehor- > *k'or with -y- from *elbayr* ‘brother’, *hayr* ‘father’, *mayr* ‘mother’, even if the latter do continue PIE nom. *b^hréh₂tēr, *ph₂tēr, *méh₂tēr.

⁴⁹ As Viredaz observes, most of his examples involve *u*-diphthongs, for which de Lamberterie [1982b: 81–82, 1992: 259, 1999] has argued for a regular development of PIE *ew > Arm. *ew*, *iw* (cf. already [Scheftelowitz 1905: 59]). *Pace* de Lamberterie, however, Arm. *loys* ‘light’ on semantic grounds is better taken from PIE *léwko- ← *lewkó- ‘light, white’ (Gr. *λευκός*), with substantivizing accent shift, than from *lówko- ‘place with light, clearing’ (Ved. *loká*-, OHG *lôh*, Lat. *lūcus* ‘sacred grove’, Lith. *laũkas* ‘open air, field’); see also the critical remarks of Ravnæs [1988: 227–228]. As long as the conditioning factors for the treatment of *ew remain unspecified, I prefer to derive strong aorists such as *eboyc* ‘nourished’, *edžz* ‘piled up’ from *e-b^hewg-e-t, *e-d^heyg^h-e-t ← PIE aor. *e-b^hewg-t, impf. *e-d^heyg^h-t (cf. [Barton 1973–1974: 33–34]). The only verb in Viredaz’s group that probably does contain an inherited *o is the defective *gog* ‘so to say’ < *h₁wog^{wh}-éy^é/_o- (cf. Lat. *voveō* ‘vow’; [HAB: I, 570], [EDAIL: 221] with refs., though note the cautious remarks of [Klingenschmitt 1982: 275]; see also above, fn. 16).

although it is true that the best examples of contraction involve nonfinal syllables (§ 5), the general consensus holds that the fate of **ǵ* depends entirely on the quality of the neighboring vowels⁵⁰.

Thus none of the arguments adduced by these authors is probative, and nothing stands in the way of the hypothesis that loss of intervocalic **h* < PIE **s* substantially predated that of PIE **y*. The loss of **ǵ* < PIE **t* was probably a relatively late development, but there is no evidence that it was later than that of PIE **y*.

The discussion above is also of relevance to the prehistory of another Armenian verbal formation, the class of presents in *-am* represented by e.g. *yusam* ‘hope’ ← *yoys* (*o*) ‘hope’, *orsam* ‘hunt, chase; catch’ ← *ors* (*o*) ‘hunt; catch’. These have long been equated with Greek presents in *-aw* (e.g. *τιμάω* ‘honor, revere’ ← *τιμή* ‘honor’), Latin first-conjugation presents in *-ā-* (e.g. *dōnāre* ‘give (as a present), donate’ ← *dōnum* ‘present’), Old Irish presents in **-ā-* (e.g. *nertaid*, *nerta* ‘strengthen’ ← *nert* ‘strength, power’), or Indo-Iranian presents in *-āya-* such as Ved. *yajñāyá-* ‘worship (the gods), make sacrifice (to the gods)’ ← *yajñá-* ‘worship, sacrifice’, which have their origin in PIE denominatives in **-eh₂-y^é/o-* to thematic nominal bases⁵¹. Under the traditional view, going back to Meillet [1903a: 29, 81, 1936: 52, 110], the pre-Armenian sequence **-āy^é/o-* would have contracted to *-a-* at an early date. According to the view put forth here, however, pre-Arm. **-āye-* would have remained unchanged at first except for the loss of distinctive vowel length, only later becoming **-ae-* by loss of intervocalic **y*. If this then underwent contraction to *-a-*, the contrast with that of **-eyā-* > **-ea-* to the diphthong **-ea-* (> *-ea-* ~ *-e-*) would presumably be due to the absence of rising diphthongs in the language⁵².

⁵⁰ See the discussion and references in [Kim 2016a: 156–162].

⁵¹ Cf. [Meillet 1903a: 81–82, 1936: 110–111; Barton 1965: 39; Godel 1965: 37, 1975: 123; Schmitt 1981: 136; Klingenschmitt 1982: 90–91; Clackson 1994: 80].

⁵² The respective weak aorists would presumably have been of the shape **-aya-*, which would have contracted to **-a-* in any case (§ 5). See below, § 7 with fn. 66.

However, it is generally agreed that Armenian *a*-presents also reflect various athematic formations⁵³. Thus monosyllabic verbs of this class go back to PIE root presents (*bam* ‘say’ < PIE $*b^héh_2- \sim *b^hh_2-$) or reduplicated presents (*gam* ‘come’, *kam* ‘stand’, *tam* ‘give’ ← PIE $*g^hé-g^hh_1- \sim *g^hé-g^hh_1-$, $*g^wé-g^wh_2- \sim *g^wé-g^wh_2-$, $*de-déh_3- \sim *de-dh_3-$)⁵⁴; while presents in *-na-* originate in nasal-infixed presents to laryngeal-final roots, e.g. *spařnam* ‘threaten’, *banam* ‘open’, *stanam* ‘get, acquire’ < PIE $*sp^hr-né-h_1- \sim *sp^hr-ŋ-h_1-$ ‘kick’, $*b^h-né-h_2- \sim *b^h-ŋ-h_2-$ ‘let shine’, $*st-né-h_2- \sim *st-ŋ-h_2-$ ‘stand (tr.)’⁵⁵. In addition, PIE factitives in $*-e-h_2-$, which are famously continued in Anatolian (e.g. Hitt. *newahh-* ‘make new’ < $*néw-e-h_2-$), may have played a role in the prehistory of the productive fientive suffix *-anam*, e.g. *hast-anam* ‘become strong’, *anmah-anam* ‘become immortal’⁵⁶. Finally, Barton [1990–1991: 45–49]

⁵³ As seen already by Meillet, who added a qualifier in the second edition of his historical grammar: “le *-a-* des dénominatifs en *-a-* (<...) représente, au moins partiellement, $*-āye-$, cf. skr. $-āya-$ ” ([Meillet 1936: 52]; cf. [Meillet 1903a: 29]).

⁵⁴ See [Klingenschmitt 1982: 84–89]; less likely *tam* < post-PIE $*dh_3-y^é/_o-$ [Meillet 1903a: 100, 1936: 132–133; Barton 1990–1991: 45] or $*dh_3-mi$, $*-si$, $*-ti$, backformed to root aor. $*déh_3- \sim *dh_3-$ [Barton 1965: 5–6], [Godel 1965: 23, 1980: 16 with fn. 13], [de Lamberterie 1994: 143, fn. 12]; cf. [Solta 1984: 68] “alte, reduplikationslose Formen”, as the aorist apparently generalized full-grade root at an early date: *etu*, 3 pl. *etun* < $*e-dō-s-$ ← $*e-deh_3-$ (see below, fn. 68). Lat. *dō*, *das*, *dat* has been abstracted from compounds such as *reddō*, *reddere* ‘give back’ < $*deda-$ < PIE ($*de-déh_3-$ ~) $*de-dh_3-$ [Leumann 1977: 527–528; Weiss 2011: 432–434], *pace* [Harðarson 1993: 38; Meiser 1998: 188, 2003: 105–106]; cf. Vestinian thematized 3 sg. *didet*.

⁵⁵ See e.g. [Meillet 1903a: 82, 1936: 111; Barton 1965: 11–14; Godel 1975: 124–125; Schmitt 1981: 137; Klingenschmitt 1982: 106–119].

⁵⁶ These presents belonged to the h_2e -conjugation in PIE, to judge from Hittite; they have fallen together with denominatives in $*-eh_2-y^é/_o-$ and adopted thematic endings in most IE branches, including Armenian [Jasanoff 2003: 139–140]. The factitive function has been taken over by denominatives in *-e-*, e.g. *srbem* ‘purify’ ← *surb* ‘pure’ (see above, § 3 with (13)), but the fientives in *-anam* recall the nasal-suffixed inchoative and intransitive presents of Germanic and Balto-Slavic (e.g. Goth. *fullnōn* ‘fill up, become full’, Lith. *(at-)būsti* ‘wake up’, pres. *(at-)buñda*, OCS *vŭz-bŭnŭti* ‘id.’, pres. *vŭz-bŭne*), for which Gorbachov (2007) has reconstructed a PIE source with

proposed that *verba affectuum* denoting mental or emotional states such as *mnam* ‘remain’, *hogam* ‘am troubled, care’, *yusam* ‘hope’ correspond to statives in *-eh₁- in other IE languages, and derived suffixal -a- from post-PIE *-h₁-y^é/o-; the chronology of the presupposed contraction of pre-Arm. *-aye- > -a- would be the same as discussed above for denominatives in *-eh₂-y^é/o-⁵⁷.

Thus there is no conclusive evidence either way from *a*-presents for the treatment of the pre-Armenian sequence *-aye-: either it contracted to *-a- and fell together with *-ā- < *-eh₂-, or it remained disyllabic and then was ousted by the reflexes of presents in *-e-h₂- and/or athematic presents to roots ending in a laryngeal⁵⁸. Even if contraction did take place, this would not contradict the hypothesis of late survival of intervocalic *y in the prehistory of Armenian.

7. The origin of the weak aorist suffix

We may now return to the PIE origins of the Armenian weak aorist. All scholars agree that the suffix *-ac^h- is in origin a sequence of *-a- and *-c^h-, but the wider connections of these elements continue to provoke controversy, due to the complexities of Armenian historical phonology as well as continuing disagreement over the position of Armenian within the IE family.

We begin with the first element *-a-, both because it raises fewer formal problems (*a* must go back to pre-Arm. **a* or **ā*, i.e. in PIE terms **a*, **h₂e* or **eh₂*, **eh₂e*) and because its interpretation will affect that of *-c^h-. K. H. Schmidt [1980b: 43–44] saw the origin of this vowel in the *a*-presents, but although the latter were admittedly a major class (including the productive subtype of fientives in -*anam*), there is no motivation for generalization to the even more numerous presents in

zero-grade root and stressed *h₂e*-conjugation endings, e.g. **li-n-k^w-é* ‘is left’. Kocharov [2011] traces the Armenian type back to PIE *-*ḡH^é/o-* (cf. Gr. -*avω*) and/or *-*ḡH-y^é/o-* (cf. Ved. *grbhāyāti* beside *grbhṇāti* ‘seizes’), but the semantic correspondence is weak.

⁵⁷ Under this view, the corresponding aorist in -*ac*‘- would go back to post-PIE *-*h₁-ské-* ([Barton 1990–1991: 46]; cf. [Kocharov 2011: 276]), or perhaps “*-*h₁-ske-t* → *-*h₁-i-a-ske-t* > -*ac*‘, comparable to *-*e-_i-a-ske-t* to pres. *-*e-_ie-ti* (*sireac*‘ : *sirē*)” [Barton 1990–1991: 46–47, fn. 62].

⁵⁸ See also [Klingenschmitt 1982: 91; Clackson 1994: 91].

-em; if anything, one would expect the pattern pres. *-a- : aor. *-a-c^h- to lead speakers to create an aorist in *-e-c^h- > †-ec'- to e-presents.

Klingenschmitt [1982: 135–136, 286]; see above, § 3) suggested that the *-a- of weak aorist *-ac^h- was generalized from 1 sg. *-a-mi in presents of perfect origin, but this is in my opinion highly unlikely for two reasons. First, there is no independent reason to suppose that a (stative) perfect such as PIE *wóyd- ~ *wid- 'know' would have tacked on present endings in this fashion (hence presumably 1 sg. *-a-mi, 2 *-ta-si, 3 *-e-ti, 3 pl. *-ēr-ṽti vel sim. ← PIE pf. *-h₂e, *-th₂e, *-e, *-ér). As discussed above in § 3 *ad fin.*, the most likely path for this verb was thematization to *woyd-e- > *gêt-e- > gite-, with the inflection of bere- 'carry' and other e-presents.⁵⁹ Second, we have seen in § 4 that none of the other presents in -em with a weak aorist in -ac'i, namely asem 'say', karem 'am able', and mart'em 'id.', can be traced back with certainty to a (post-)PIE perfect. Thus even if one accepts Klingenschmitt's interpretation of the -a- of gitac'i, it strains credulity to think that this verb alone could have served as a model for the creation of the entire weak aorist.

Peters [1997] compares the -a- of the Armenian weak aorist suffix with -η- in the isolated and thus presumably archaic Homeric Greek pluperfect ἤδ-η 'knew'. But not only does this too assume 'know' as the sole starting point for the weak aorist, there is no evidence from non-Attic-Ionic dialects that this -η- goes back to Proto-Greek *-ā-, and its wider connections remain controversial⁶⁰. Most recently, Jasanoff takes -a- to be generalized from 3 pl. *-a-nt, mp. *-a-nto ← *-ant, *-anto < PIE *-nt, *-nto along the lines of the "alphathematized" sigmatic aorist in Greek (see above, fn. 8), but -a- is otherwise solely the marker of the *mediopassive* aorist stem in

⁵⁹ Cf. Middle Iranian forms such as Sogd. pres. 1 sg. *ptwyδ'm* [patwé:ða:m] 'know' (< *pati-waid-), subj. 3 sg. *nw'yδ't* [nwé:ða:t] 'may invite' (< *ni-waid-; [Cheung 2007: 409]).

⁶⁰ Among other recent analyses, see [Jasanoff 1997: 125, fn. 20, 2003: 36, fn. 20; Katz 2006: 25–27] (backformed to opt. *ειδείη* on the model of passive aorists, e.g. (έ)φάνη 'appeared') and [Schrijver 1999] (comparing Middle Welsh *gwyδ-y-* < *weid-ī- < *-ē- and cognate forms in British Celtic).

Armenian⁶¹. In forms such as *asac* ‘ay ‘was said’, *sirec* ‘ay ‘was loved’, *luac* ‘ay ‘washed (myself)’ < **asa-c^h-a-*, **sêrea-c^h-a-*, **lua-c^h-a-*, the two *a*’s surely have different sources.

In contrast, the traditional comparison with Balto-Slavic preterite **-ā-* and the Italic imperfect **-ā-* of Latin *er-ā-*, *-bā-* and Oscan pl. *fufans* is both semantically and formally unproblematic⁶². These formations, along with others, have in the past been taken as evidence for a PIE preterite in **-eh₂-* (see e.g. [Jasanoff 1983]), but most scholars today agree that such a preterite marker did not exist in the protolanguage. The Latin imperfect has been derived from an optative **-e-h₂-* which ousted the reflexes of PIE **-o-yh₁-* in the famous *ā*-subjunctive of Italic and Celtic [Trubetzkoy 1926; Benveniste 1951]. The shift from optative to repeated or habitual action in the past is a widespread occurrence, with parallels in Middle Iranian and Tocharian as well as modern IE languages (Benveniste op. cit.). Such a shift will also account for the Balto-Slavic preterite **-ā-*, e.g. Lith. *dirbo* ‘worked’, *turėjo* ‘had’, OCS *bīra* ‘took’, *pīsa* ‘wrote’ (secondarily extended to the infinitive stem in Slavic, as in OCS *bīrati*, *pīsati*)⁶³. Whatever the ultimate origin of this **-ā-*, it bears

⁶¹ On the origin of aor. mp. *-a-* in 3 pl. **-a-nto* ← **-anto* < PIE **-nto* (← **-énto*) as well as root aorists to laryngeal-final roots (e.g. 3 sg. *edaw* ‘was put’, *cnaw* ‘was born’ < **edato*, **cinato* < PIE *(*e-*)*d^hh₁-to*, **génh₁-to*), see [Jasanoff 1979: 143; Klingenschmitt 1982: 9, 21; de Lamberterie 1982a: 42, fn. 64, 1982b: 82; Viredaz 2001–2002: 7; Kim 2016b: 39–40 with fn. 1].

⁶² First made by Pedersen [1905: 212]; cf. [Mariès 1930: 168] (unconvincingly argued pp. 171–172 to be a suffix originally marking “l’état”), [Karstien 1956a: 221; Perel’muter 1977: 97; Djahukian 1982: 190; Klein 2007: 1075; Viredaz 2015, § 1.4.3.]. I cannot follow the alternative comparison of the aor. mp. marker *-a-* with this **-ā-* [Godel 1965: 28, 1975: 121–2; Perel’muter 1977: 94; Lindeman 1982: 40, 1985; Solta 1984: 64, 1990: 12–13], nor with supposedly “intransitive” Balto-Slavic **-ā-* [Stang 1942: 75–76; Barton 1965: 48–51; 1973–1974: 29–30; Kocharov 2011: 275, fn. 7]. See the preceding footnote.

⁶³ Numerous scholars have sought to connect the Armenian imperfect with the PIE athematic optative in (**-yéh₁-* ~) **-ih₁-* [Kerns 1939: 21–30; Evangelisti 1955; Godel 1970: 150, 1975: 116–117; Winter 1975: 112–120; K. H. Schmidt 1980a: 5, 1980b: 46, 1985: 221], but the phonological and

emphasizing that its absence in Greek is *not* a valid argument against a comparison with the Italic imperfect and Balto-Slavic preterite, as some scholars have claimed⁶⁴. On the contrary, given the evidence that pre-Armenian occupied a position in the dialect geography of late PIE intermediate between Greek and Balto-Slavic, it is entirely to be expected that the language would have undergone some innovations in common with the latter as well as the former⁶⁵.

As seen in § 1, the few weak aorists associated with presents in *-um* simply add *-c'* to the root, e.g. *lc'i* (*elic'*) 'filled' < **li-c^h*-. This suggests that weak aorists in *-ac'* to (historically) athematic presents in *-am* likewise added **-c^h*- to an earlier stem ending in **-a-*, e.g. *luanam* 'wash', aor. *lua-c'*- [Godel 1965: 38]. As for denominatives such as *yusam* 'hope', which go back to PIE thematic presents in **-eh₂-y^e/o-* (§ 6), their aorists would have been of the form **-ay-ac^h*-, which would have regularly merged with the **-ac^h*- of the previous type⁶⁶. Thus, if we assume that **-c^h*- in all of these aorist stems is a later addition (see below), the forerunners of the weak aorist at a stage prior to the loss of intervocalic **y* were formed according to a simple rule: thematic presents (17) replaced the thematic vowel with **-a-*, while nasal presents in **-na-* and **-nu-* dropped the present-forming suffix, following the pattern inherited from PIE (18).

morphological obstacles are in my opinion prohibitive; cf. the alternative accounts of [Meillet 1936: 126–127; Jasanoff 1979: 137–141; Klingenschmitt 1982: 14–17; Viredaz 2015, §§ 7–8].

⁶⁴ E.g. [Klingenschmitt 1982: 136–137; Peters 1997: 210]. On the perils of the Greco-Armenian hypothesis for this and other problems of Armenian historical morphology, see [Kim 2018: 261–263].

⁶⁵ Thanks to H. H. Hock for helpful discussion on this point. For isoglosses shared by Armenian and (Balto-)Slavic (not all of equal value!), see [Karstien 1956a: 212–220] and especially [Saradževa 1980, 1986]; cf. also the partial sigmatization of root aorists in both branches (see below, fn. 68 with refs.).

⁶⁶ *Pace* [Barton 1965: 75] (*mnaç'i* < **mēnə-sk'*), [Godel 1965: 38] (*-ac'*- < "imparfait" **-āye-ske-* or "aoriste" **-ā-ske-*), [Godel 1969: 254, 1975: 127] ("mnaç'i 'I remained' < **monā(ye)-ske/o-*"), [Solta 1987: 632] (*mnaçi* „ich blieb“ < **monā-(je)-ske/o-*”).

(17)	present	aorist
	* <i>ase-</i> ‘say’	* <i>asa-</i>
	* <i>sêreye-</i> ‘love’	* <i>sêreya-</i>
	* <i>yusaye-</i> ‘hope’	* <i>yusaya-</i>

(18)	present	aorist
	* <i>lua-na-</i> ‘wash’	* <i>lua-</i>
	* <i>li-nu-</i> ‘fill’	* <i>li-</i>

The preceding discussion offers a new perspective on the distribution of weak and strong aorists in Classical Armenian, as well as the evolution of weak aorist morphology. Whereas presents in *-anem* (*-anim*) regularly take strong aorists, presents in *-nam* and *-(n)um* are associated with both strong and weak aorists. An examination of the latter two present types reveals that, whereas weak aorists are formed to verbal roots ending in a vowel (see above, fn. 5), strong aorists are restricted to roots ending in a consonant or high vowel.

(19)	present	aorist
	* <i>darj-na-</i> ‘turn (intr.)’	* <i>darj-</i>
	* <i>barj-na-</i> ‘lift, carry’	* <i>barj-</i>
	* <i>lua-na-</i> ‘wash’	* <i>lua-c^h-</i>
	* <i>ba-na-</i> ‘open’	* <i>ba-c^h-</i> , etc.

(20)	present	aorist
	* <i>ar-nu-</i> ‘take’	* <i>ar-</i>
	* <i>ĵer-nu-</i> ‘become warm’	* <i>ĵer-</i>
	* <i>erdu-nu-</i> ‘fear’	* <i>erdu-</i>
	* <i>ayti-nu-</i> ‘swell’	* <i>ayti-</i>
	* <i>li-nu-</i> ‘fill’	* <i>li-c^h-</i>
	* <i>xi-nu-</i> ‘seal/stop up’	* <i>xi-c^h-</i>
	* <i>zge-nu-</i> ‘put on’	* <i>zge-c^h-</i>
	* <i>ye-nu-</i> ‘lean (upon)’	* <i>ye-c^h-</i> , etc. ⁶⁷

⁶⁷ Other *u*-presents may be added to this list if they continue pre-Arm. *-nu-*, e.g. *helum* ‘pour’, whose *l* may reflect pre-Arm. **ln* in pres. **hel-nu-* : aor. **hel-* [Pedersen 1906: 354; Meillet 1916: 178, 1936: 48, 112; de Lamberterie 1992: 274]; uncertain [Klingenschmitt 1982: 244–246; Solta 1974: 111, fn. 79, 1984: 72].

This pattern makes sense once it is recalled that the aorist has completely generalized vowel-initial allomorphs of the person-number endings: although the details remain unclear, those of the active ultimately go back to the PIE thematic vowel **-e-*, whereas all the mediopassive endings begin with *-a*⁶⁸. Once this had happened, speakers generalized **-c^h-* as a hiatus filler after aorist stems ending in a nonhigh vowel **-a-* or **-e-*, to avoid contraction with the endings: hence act. **lua-e/i-*, **ba-e/i-* → **luac^h-e/i-*, **bac^h-e/i-* > *luacⁱ* ‘washed’, *bacⁱ* ‘opened’; **unke-e/i-* → **unkec^h-e/i-* > *ənkecⁱ* ‘made fall, threw down’ (3 sg. **unkē* → **unkēc^h* > *ənkēcⁱ*, see § 2 *ad fin.*); and mp. **lua-a-*, **zge-a-*, **ye-a-* → **lua-c^h-a-*, **zge-c^h-a-*, **ye-c^h-a-* > *luacⁱ* ‘washed (myself)’, *zgecⁱ* ‘put on’, *yecⁱ* ‘leaned (upon)’.⁶⁹ *Medium tantum* aorists to stems ending in a high vowel posed no problem, e.g. **erdu-a-* ‘feared’, **ayti-a-* ‘swelled’; but the active aorists to **li-nu-* ‘fill’, **xi-nu-* ‘seal/stop up’ would have been the ill-formed **li-e/i-*, **xi-e/i-*, which were therefore remade to **lic^h-e/i-*, **xic^h-e/i-* > *lcⁱ* (*elic*), *xcⁱ* (*exic*)⁷⁰. Forms such as *lcⁱ* are thus *not* the

⁶⁸ The only exceptions are *edi* (*ed*) ‘put’ and *etu* (*et*) ‘gave’, which go back to (at least partly) sigmatized PIE root aorists ([Bonfante 1942; Barton 1965: 47–48, 1989: 146–147]; see now [Viredaz 2015]), and *elēw* (1 sg. *elē*) ‘became’, which continues post-PIE **e-k^wl-e-to* (cf. Gr. *ἐπλετο* ‘has become, is’; [Lindeman 1973–1974: 48–49; Klingenschmitt 1982: 280–281; Klein 2007: 1075]). Klingenschmitt writes the aorist stems as e.g. act. *arb(e)-* ‘drank’, *-ecⁱ(e)-* vs. mp. *kal(a)-* ‘held’, *-ecⁱ(a)-*, but I have eschewed that practice here in order to avoid confusion with pre-Arm. weak aorist stems in **-a-*. On the origin of aorist middle *-a-*, see fn. 61.

⁶⁹ Note that **zge-* ‘put on (clothing)’ < PIE **wes-* would have become vowel-final only after loss of intervocalic **h* < **s*, which made the aorist **zgeh-a-* ill-formed. Pace de Lamberterie [1985b: 130], *astuac-a-zgeacⁱ* ‘clothed in God’ (first attested in Agathangelos) is no proof that the aorist stem *zgecⁱ-* goes back to **zgeacⁱ-*; the former could simply be a backformation with ahistorical vocalism, much like e.g. *ump* ‘drink’ ← *əmpem* ‘drink’ [Praust 1996: 188–189].

⁷⁰ *Ent’ernum* ‘read’, aor. *ənt’ercⁱay*, usually given beside *lcⁱ*, *xcⁱ*, *ənkecⁱ*, *zgecⁱay*, and *yecⁱay* as a sixth example of this type, probably does not belong here. Szemerényi’s derivation from **əndi-harcⁱ-*, a calque of Iranian **pati-pršća-* (cf. OP *pati-p(a)rs-*, Parthian *pdfwrs-* ‘read’; [Szemerényi 1966: 223–225; de Lamberterie 1994: 146]), does account for the shape of aor.

source of the weak aorist marker $*-c^h-$, as sometimes claimed, much less go back to PIE $*e-pleh_1-sk^e/o-$ ⁷¹, but are in fact relatively late innovations on the model of the hundreds of weak aorists in $*(-a)-c^h-$.

We are left with strong and weak aorists to unsuffixed presents in *-em (-im)*. The list below is exhaustive.⁷²

- | | | |
|------|-------------------------|--------------|
| (21) | $*ber-e-$ ‘carry’ | $*ber-$ |
| | $*ac-e-$ ‘lead’ | $*ac-$ |
| | $*han-e-$ ‘pull out’ | $*han-$ |
| | $*nist-e-$ ‘sit (down)’ | $*nist-$ |
| (22) | $*gêt-e-$ ‘know’ | $*gêt-a-$ |
| | $*as-e-$ ‘say’ | $*as-a-$ |
| | $*kar-e-$ ‘be able’ | $*kar-a-$ |
| | $*mart^h-e-$ ‘be able’ | $*mart^h-a-$ |

The crucial difference between the two groups is that the verbs in (22) were defective at the relevant stage of pre-Armenian, while those in (21) inherited aorist stems from the protolanguage. In the case of *berem* and *acem*, PIE $*b^her-$ and $*h_2eg-$ were almost certainly *praesentia tantum*, the aorist being supplied by other roots⁷³, but

subj. *ənt'erc'c'i* (not †-sc'-) but runs up against phonetic difficulties [Klingenschmitt 1982: 251–252; Praust 1996: 190]. Kocharov [2017] instead connects the root with Hitt. *tarna-* ‘let go’, Toch. B /*tarka-*/ (pres. /*tarkana-*/), A *tärkã-* (pres. *tärnã-*) ‘let go, release; utter’, OCS *trǔg-* (pres. *-trǔgnōti*) ‘let go, expel; utter’ < PIE $*terK(H)-$, which is semantically satisfactory but would require the root-final *-c'-* to be generalized from a sigmatic aorist $*terK-s-$.

⁷¹ So among others [Karstien 1956a: 227, 1956b: 96, 97; Godel 1965: 37, 1975: 127; Watkins 1973: 71, fn. 21; Clackson 1994: 82].

⁷² A few other poorly attested aorists may be assigned to the type of *berem*, aor. *beri*: *zgakim* ‘dress myself’ (beside *zgaknum*), aor. *zgakay*; *helusem* ‘nail, fasten’, aor. *helusi* (*heluys*); *hiwsem* ‘plait, braid’ (postclassical also *hiwsum*), aor. *hiwsi* (beside *hiwsec'i*).

⁷³ Cf. GAv. *baraitī*, aor. *nqsaṭ*; Gr. *φέρω*, aor. *ἤνεγκον/ἤνεγκα*; Lat. *ferō*, pf. *tulī*. Ved. aor. *abhār*, OIr. pret. *birt*, *bert*, and Goth. pret. *bar* are independent post-PIE creations ([LIV²: 76–77; Jasanoff 2012: 132]). — The alternative derivation of *acem* from PIE $*h_2g-es-$ ([Kortlandt 1983: 14, 1996b: 56 (2003: 44, 118); Beekes 2003: 175, 182]; cf. Lat. *gerō* ‘carry’) is

Armenian generalized the present stem by extending the inherited imperfect to aorist function: hence 3 sg. *eber* ‘carried’, *ac* ‘led’ < PIE **e-b^her-e-t*, **h₂éǵ-e-t*. The same is true of *nstim* ‘sit (down)’ ← **niste-* < PIE **ni-si-sd-e/o-*, whose aor. 3 sg. *nstaw* < **nistaw* continues PIE impf. **ni-si-sd-e-to* with regularized “alphathematic” inflection⁷⁴.

In contrast, *gitem* ‘know’ goes back to PIE pf. **wóyd-* ~ **wid-* and thus originally lacked an aorist; similarly for *asem* ‘say’, which judging from reflexes in the daughter languages appears to have had a defective paradigm in the protolanguage. Like derived presents in *-y^e/o-

motivated entirely by the belief that PIE **h₂e-* > Arm. *ha-*; see the critical remarks in [Clackson 2004–2005: 155; EDAIL: 16].

⁷⁴ In cases such as aor. *harc* ‘i (*eharc*)’ ‘asked’, *dizi* (*edêz*) ‘piled up’ < impf. **p_{rs}k^é/o-*, **d^heyǵ^h-e/o-* (← PIE **d^héyǵ^h-* ~ **d^hiǵ^h-*), the inherited imperfect was shifted to aorist function by the creation of a new characterized present stem, respectively *harc* ‘*anem*, *dizanem*. That cases such as *berem*, aor. *beri* were unstable and/or disfavored is suggested by *lizem* ‘lick’, aor. *lizec* ‘i beside *lizanem* and *lezum/lizum* ‘id.’, aor. *lizi*, which Klingenschmitt [1982: 208–210]; cf. [LIV²: 404, n. 2] explains as reformations of an earlier pres. **lizem*, aor. **lizi*, with the present stem continuing **leyǵ^{he}/o-* ← PIE **léyǵ^h-* ~ **liǵ^h-* (Ved. *rédhi*, pl. *rihánti*, thematized in Gr. *λείχω*; *praesens tantum?*).

The etymology of the fourth verb, *hanem* ‘pull/draw out, remove’, remains contested: it has been connected with Hitt. *šanḫ-* ‘seek, look for’, Ved. *sanóti* ‘win, gain’, Gr. *ἀνύω* ‘effect, accomplish’, OHG *sinnan* ‘strive after’ < PIE **senh₂-* ‘attain, catch’ [Meillet 1897: 26, 1910–1911: 245; Hübschmann 1899: 48; HAB: III, 33–34; Barton 1965: 26; de Lamberterie 1985a: 207]; Lith. *pinù*, inf. *pinti* ‘weave’, OCS *-pīnŏ*, inf. *-pęti* ‘stretch’ (e.g. *ras-pęti* ‘crucify’), Goth. *spinnan* ‘spin’, etc. < PIE *(*s*)*penH-* ‘pull, stretch’ ([Klingenschmitt 1982: 131–132]; but probably the source of *henum* ‘weave’, aor. *hani* only, cf. [LIV²: 578–579] s.v. *(*s*)*penh₁-*); Hitt. *han-* ‘draw (liquids)’ < PIE **h₂en-* [Kapantsyan 1931–1933: 96, 1956: 372–373; Puhvel 1991: 77; Kloekhorst 2008: 282; EDAIL: 389 with refs.]; and even Arm. *hun* ‘ford’ ([Olsen 1985: 11, fn. 13] “denominative verb derived from the zero grade”). Most probable in my opinion is a connection with Gr. *σάω* ‘draw (out)’ [Klingenschmitt 1982: 132; LIV²: 575], which along with Ved. *-pipīte* ‘moves’, Hitt. *pipp(a)-* ‘id.’ may be derived from a PIE root *(*s*)*peh₂-* ‘in (heftige) Bewegung setzen’ [García Ramón 2011]. The Armenian verb would in that case reflect a secondary nasal-suffixed present: PIE *(*s*)*pi-(s)péh₂-* ~ *(*s*)*pi-(s)ph₂-*, aor. *(*s*)*péh₂-* ~ *(*s*)*ph₂-* → **pā-ne-*, **pā-* → *hanem*, aor. *hani*.

these verbs thus had to create entirely new aorists. For this purpose, they did not resort to the imperfect inherited from PIE as in the case of *berem*, *acem*, and *nstim*, perhaps because the formation had already been completely eliminated, as it was in most other IE branches. Instead, speakers formed a new past of repeated and habitual action with the originally optative suffix **-a-* (< PIE **-e-h₂-*), as described above: hence **woyd-ā-* ‘knew, would know’, **ak-ā-* ‘was saying, would say’, and similarly **worǵ-ey-ā-* ‘loved, would love’, **wesn-ey-ā-* ‘bought, would buy’ to the derived presents **worǵ-eye-*, **wesn-eye-*.

If the above analysis of the Armenian strong and weak aorists is correct, where did the **-c^h-* of the weak aorist marker **-a-c^h-* come from, and how did it spread? Despite repeated attempts, the absence of secure examples for obstruent + **s* > *-c^h-* remains an obstacle to connecting Arm. *-c^h-* with the PIE *s*-aorist⁷⁵. The only real possibility is to derive *-c^h-* from the PIE verbal suffix **-sk^é/o-*, which famously fulfills several functions: in addition to building presents to aoristic roots in the protolanguage (e.g. PIE **p_ṛsk^é/o-* < ***p_ṛk-sk^é/o-* ‘ask’, **g^wṛ-sk^é/o-* ‘step, go’) and inchoatives in *-ēscō* to Latin statives in *-eō* (e.g. *albēscō* ‘become white’, *senēscō* ‘become old’ to *albeō* ‘am white’, *seneō* ‘am old’), it productively forms derived imperfectives in Hittite (e.g. *azzikki/a-*, *anniski/a-* to *ēd-/ad-* ‘eat’, *aniya-* ‘work, treat; carry out, perform’)⁷⁶ and iterative imperfects in Ionic Greek (e.g. *ἔχασκε* ‘had, held’, *φιλέσκει* ‘loved’, *δόσκει* ‘gave’)⁷⁷. The latter have

⁷⁵ So [Pisani 1950a: 529 (1959b: 105), 1951: 66–67 (1978: 308–309); Klingenschmitt 1982: 286–287; Kortlandt 1987: 51, 1995: 15–16, 1996a: 40–43 (2003: 81, 108–109, 114–116)]; see the critical remarks in [Clackson 1994: 82–83; Viredaz 2015, § 1.4.2.]. See also fn. 77 below.

I should add that I am also not convinced by the various proposals put forth in the literature to derive the weak aorist and the subjunctive from a single source. On the prehistory of the Armenian subjunctive, see e.g. [Klingenschmitt 1982: 32–44; Lühr 1994] (with discussion of earlier hypotheses).

⁷⁶ See [Melchert 1998; Hoffner and Melchert 2008: 318–323].

⁷⁷ Cf. [Meillet 1903a: 85–86, 1936: 115; Pedersen 1905: 207], [Pisani 1959a: 177] (“sostituzione di forme in *-sk^é-* a quelle sigmatiche dell’aoristo”), [Solta 1963: 118; Barton 1965: 74–75, 1990–1991: 47, fn. 63; Godel 1965: 37, 1969, 1975: 127; Watkins 1969: 57; Perel'muter 1977: 97; K. H. Schmidt 1980b: 45–46; Schmitt 1981: 145; Djahukian 1982: 190–191; Stempel

long been compared with the Armenian weak aorist suffix, no doubt under the influence of the widespread belief in an especially close relationship between Armenian and Greek, although Clackson [1994: 75–83] argues that the two formations are parallel but independent elaborations: note that Greek has generalized *-εσκ-* as the productive iterative formant, in contrast to Armenian **-ac^h-*, and that the few Armenian weak aorists to monosyllabic stems take the augment in the active 3 sg., e.g. *ebac* ‘opened’, *ekac* ‘stood’, *elic* ‘filled’, whereas the augment is regularly lacking in the Ionic iterative⁷⁸. Even if one prefers to interpret these facts in terms of contact and diffusion, Armenian must have gone farther than any variety of ancient Greek in generalizing **-sk^e/o-* from marking iterative-intensive imperfects to all imperfects, then in shifting these imperfects to aorist function⁷⁹.

1983: 62–63; de Lamberterie 1992: 270–271, 2005–2007: 51; Klein 2007: 1075; Meyer 2014: 389–390; Viredaz 2015, § 1.4.2]; for additional references, see [Clackson 1994: 215, n. 77]. On the Ionic type itself, see [Schwyzer 1939: 710–712]. The functional identity of Arm. aor. *-c’* < **-sk’* and the **-s-* of the classical sigmatic aorist does parallel other instances of **-s-* beside **-sk’* in IE verbal morphology [Watkins 1973: 70–1; Solta 1963: 118, 1984: 73–74, 1987: 632–634, 1990: 12 with refs.; Klein 2007: 1073, 1075], but this by itself tells us nothing about the path of grammaticalization of the suffix in Armenian.

The Slavic imperfect probably does not belong here, *pace* Karstien [1956a: 220 ff.], who derived OCS 1 sg. *-axŭ*, 3 *-aše* from **-ā-sk^e/o-* and compared the Armenian weak aorist in **-ac^h-*. Despite the criticism of Godel [1970: 149], the problem here is not so much semantic as formal: there are no good parallels for the alleged metathesis of PIE *sk’* > **ks* > Proto-Slavic **x*. On the prehistory of the Slavic imperfect, see e.g. [Sadnik 1960] (followed by [Aitzetmüller 1991: 188–191]), [Vaillant 1966: 66–68; Kortlandt 1986].

⁷⁸ However, Clackson’s third reason for rejecting a historical connection between the Greek and Armenian formations, the supposed full-grade root of *elic* ‘filled’ < **pleh₁-sk^e/o-* vs. the zero-grade of *δόσκει* ‘gave’, *στάσκει* ‘stood’, *παρέβασκει* ‘went beside’ < **dh₃-sk^e/o-*, **sth₂-sk^e/o-*, **g^wh₂-sk^e/o-* [Clackson 1994: 82–3], is not valid, as *elic* ‘is an Armenian-internal innovation (see above).

⁷⁹ The first step does however find an interesting parallel in the modern Greek dialects of northern Greece (Thessaly, Macedonia, Thrace),

8. From PIE to Armenian: the evolution of the weak aorist

On the basis of the analysis in § 7, we may reconstruct the following sequence of prehistoric morphological developments for Armenian, taking as examples **b^her-e-* ‘carry’, **woyd-e-* ‘know’, and **worǵ-eye-* ‘work, make’⁸⁰. In the first stage (a), thematic (including thematized) presents contrasted an unmarked imperfect, of PIE origin, and an iterative imperfect, characterized by the suffix **-sk^é/o-*. Next (b), the imperfect **eb^heret* spread to the aorist, eliminating whatever suppletive stem the language had inherited. At this point, derived present stems such as **worǵeye-* did not yet have grammaticalized aorists, continuing the situation in the protolanguage. Then, for reasons which can no longer be identified, **worǵeyet* ‘was making’ was replaced by originally optative **worǵeyāt*; to this new default imperfect was created a corresponding iterative imperfect with the suffix **-sk-*, hence **worǵeyāsket* (c). The new imperfect was extended to aorist function, becoming the functional equivalent of **eb^heret* ‘carried’. The same replacement may have affected the imperfect of ‘carry’ as well, producing **(e)b^herāt* and iterative **b^herāsket*; the aorist, however, remained unaltered. As for ‘know’, following its regularization as a thematic present **woydeti* (b), it too acquired an iterative imperfect **woydāsket* and unmarked imperfect **woydāt*, the latter also serving as aorist.

	(a)	(b)	(c)
Present	<i>*b^hereti</i>	> <i>*b^hereti</i>	> <i>*b^hereti</i>
Iter. impf.	<i>*b^heresket</i>	> <i>*b^heresket</i>	→ <i>*b^herāsket</i> (?)
Imperfect	<i>*eb^heret</i>	> <i>*eb^heret</i>	→ <i>*(e)b^herāt</i> (?)
Aorist	[<i>*h₁nek-</i>]	→ <i>*eb^heret</i>	> <i>*eb^heret</i>

Cyprus, and Cappadocia, which attest similar-looking formations in *-(i)σκον* ([Hatzidakis 1892: 416–417; Thumb 1910: 146 § 214.6 (1964: 153)]; cf. [Schwyzer 1939: 712]). Despite undeniable contact between Greek and Armenian speakers (e.g. in the Pontos region) since ancient times, I do not believe that this should be seen as anything more than coincidence; note in particular that Pontic Greek has unexpectedly grammaticalized *-σκουμαι* as a passive suffix in e.g. *μυρίσκουμαι, κρύφκουμαι* to *μυρίζω* ‘paint’, *κρύφτω* ‘hide’ [Hatzidakis 1892: 416–7; Thumb 1910: 126, § 199.4 (1964: 133)].

⁸⁰ See the brief chronology of K. H. Schmidt [1980b: 46], which however does not account for the contrast between the aorists of *berem* and *gitem*.

The prehistory of the Classical Armenian weak aorist

Present	[*wóyd- ~ *wid-]	→ *woydeti	> *woydeti
Iter. impf.	—	—	→ *woydāsket
Imperfect	—	—	→ *woydāt
Aorist	—	—	→ *woydāt
<hr/>			
Present	*worǵeyeti	> *worǵeyeti	> *worǵeyeti
Iter. impf.	*worǵeyesket	> *worǵeyesket	→ *worǵeyāsket
Imperfect	*worǵeyet	> *worǵeyet	→ *worǵeyāt
Aorist	—	—	→ *worǵeyāt

After these developments, the contrast between the two past imperfective categories was lost; most probably, the unmarked imperfect and the iterative imperfect in *-c^h- remained in competition for some time (d)⁸¹. The imperfects of ‘carry’, ‘know’, and ‘work’ thus became *berac^he ~ *bera, *ǵetac^he ~ *ǵêta, and *gorceyac^he ~ *gorceya, respectively. In ‘know’ and the majority type of ‘work’, where the imperfect and aorist were identical, the aorist naturally also took on the variants *gorceyac^he ~ *gorceya. Finally (e), the variation in the aorist was resolved in favor of the longer forms in *-ac^h-, *-eyac^h- > -ac‘-, -eac‘ ~ -ec‘-, whereas the imperfect was replaced once again by the attested formation in -i/y- (e.g. *gorcei*, 3 sg. *gorcêr* ‘used to make, was making’).

	(c)	(d)	(e)
Present	*bereyi	> *bereyi	> berê
Iter. impf.	*berac ^h e (?)	—	—
Imperfect	*bera (?)	→ *berac ^h e ~ *bera (?)	→ berêr
Aorist	*eber	> *eber	> eber
<hr/>			
Present	*ǵêteyi	> *ǵêteyi	> ǵitê
Iter. impf.	*ǵêtac ^h e	—	—
Imperfect	*ǵêta	→ *ǵêtac ^h e ~ *ǵêta	→ ǵitêr
Aorist	*ǵêta	→ *ǵêtac ^h e ~ *ǵêta	> ǵitac‘

⁸¹ For the sake of simplicity, I have assumed the relevant sound changes at stage (c), i.e. the Armenian consonant shift, monophthongization of diphthongs, *-sġ- > *-c^h-, *w- > *g-, and lenition of intervocalic *t and loss of word-final *-t. On the other hand, apocope of final syllables and loss of intervocalic *y are assigned to stage (e).

Present	<i>*gorceyeyi</i>	> <i>*gorceyeyi</i>	> <i>gorcê</i>
Iter. impf.	<i>*gorceyac^he</i>	—	—
Imperfect	<i>*gorceya</i>	→ <i>*gorceyac^he</i> ~ <i>*gorceya</i>	→ <i>gorcêr</i>
Aorist	<i>*gorceya</i>	→ <i>*gorceyac^he</i> ~ <i>*gorceya</i>	> <i>gorceac</i> ‘

As a final step, the now highly productive weak aorist marker **-c^h-* was extended to root aorists ending in a vowel when they acquired regular (alpha)thematic inflection: hence PIE **pleh₁-* > **li-* → **li-c^h-e/a-* in *lc‘i* ‘filled’, *lc‘ay* ‘was filled’ and PIE **wes-* → **zge(h)-* → **zge-c^h-a-* in *zgec‘ay* ‘put on (clothing)’, leaving only the relics *edi* (*ed*) ‘put’, *etu* (*et*) ‘gave’.

9. Conclusion

The analysis proposed here not only accounts satisfactorily for the attested distribution of weak aorists in *-ac*‘ and *-eac*‘, but also provides a plausible sequence of steps for the functional shift of PIE **-sk^e/o-* > Arm. *-c*‘- from marking iterative imperfects to derived aorist stems. Late retention of intervocalic **y*, unlike **s*, explains the lack of contraction in impf. > aor. **-ey-a-c^h-* (to denominative and other derived presents in **-ey^e/o-*), which only later became the diphthong **-ea-c^h-* and then *-eac*‘ ~ *-ec*‘-. The first element of the suffix **-a-c^h-* may be compared with the Latin imperfect and Balto-Slavic preterite in **-ā-* and traced back to a PIE optative in **-eh₂-*. The expansion of **-sk^e/o-* > **-c^h-* in the imperfect > aorist was parallel to but independent of the Ionic type *ἔχασκε*, *φιλέσσκε* and led to the complete disappearance of the erstwhile imperfects in plain **-a-*, leaving as the sole trace of the PIE imperfect such shifted aorists as 3 sg. *eber* ‘carried’, *nstaw* ‘sat (down)’, *eharc*‘ ‘asked’.

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