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## REMODELLING THE HISTORICAL MORPHOLOGY OF THE CLASSICAL ARMENIAN *-EAL* PARTICIPLE

§1 The formation of the Classical Armenian past participle in *-eal*, whose derivation from PIE *\*-lo-* has been recognised at least since MEILLET (1936), has traditionally been linked with the formation of the aorist. In synchronic terms, the participle of most verbs is formed on the basis of the aorist stem, so for example Arm. *tesanem* ‘to see’, aor. *tesi*, ptcp. *teseal*; a number of denominative verbs, however, form their participles on the basis of the present stem, type *gorcem* ‘to work’, aor. *gorcec* ‘i’, ptcp. *gorceal* (JENSEN 1959:105–6)<sup>1</sup>. Concerning its historical morphology, there are a number of dissenting voices: it has been argued that the *\*-lo-* suffix was added to the aorist stem (MARIÈS 1930), derived from the present infinitive *-el* in analogy with the aorist (STEMPEL 1983), or otherwise formed directly from the verbal stem (KLINGENSCHMITT 1982), to name but a few. In all instances, however, a great number of the forms attested can only be arrived at through analogical spread of the formational pattern envisaged.

All of these approaches fail to answer some important questions regarding the analysis of the participle in morphological terms:

- the fact that, depending on the individual verb, either present or aorist stem are taken as the basis for participle is left unexplained;
- in view of the variety of aorist formations, the uniformity of the supposedly aorist-based *-eal* participle remains unaccounted for;
- if it is believed that the past-marking suffix of the aorist is *-c* ‘< PIE *\*-sk-*, whereas the vocalism *-ea-* has arisen only through a series of

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<sup>1</sup> Some verbs of the latter type further show late, secondary formations in *-ec* ‘*eal*’, for instance *sirem* ‘to love’, aor. *sirec* ‘i’, for which both *sireal* and *sirec* ‘*eal*’ are attested.

analogical steps, what rational function does this vocalism fulfil in the *-eal* participle?

Taking into account these questions, previous formational models, as well as the most recent views on the historical development of the aorist, this paper offers a different understanding of the historical morphology of the Armenian past participle, unrelated to the aorist. The participle is derived from a combination of the passive-intransitive suffix *\*-iya-* and the verbal adjective marker *\*-lo-*, which are added to the bare root of the verb; participles which are demonstrably formed on the aorist stem (type *gnam* ‘to go’, aor. *gnac’i*, ptcp. *gnac’eal*) are the result of late formations made for reasons of phonological stability, or on the basis of secondary verbal stems.

Before going into more detail concerning the new model, previous approaches regarding participle formation will be summarised briefly in §2. These views are then put in perspective in the course of a brief review of the aorist formation in §3. The issues arising from the content of §4, a solution to which, in the form of the model mentioned above, is discussed in §5.

§2 The first explicit explanation of the historical morphology of the participle originates with MARIÈS (1930:170), who suggests that PIE *\*-is-ā-lo-* underlies Arm. *-eal*<sup>2</sup>. Participles in *-ec’eal*, both original (type *kamec’eal*) and late forms (type *sirec’eal*, *koč’ec’eal*), are thought to reflect a differentiation in voice, furnishing the medio-passive<sup>3</sup>; without further explanation or justification, the form is analysed as analogically based on the medio-passive aorist imperative, e.g. *sireac’*.

Neither of MARIÈS's explanations holds up to scrutiny: next to the unlikely combination of formantia adduced (see fn. 2), the *\*-lo-* suffix is

<sup>2</sup> Mariès derives this formation from the aorist in *\*-is-ā-sk-*. In both cases, *\*-is-* is interpreted as a sigmatic aorist marker, and *\*-ā-* as an imperfect marker as occurring in Lat. *erās* ‘you were’, Lith. *bùvo* ‘he has been’ (*\*ā > o*); see **Mariès** (1930:168). This view cannot stand for multiple reasons: the combination of aoristic and imperfective morphological markers is dubious and unparalleled in the first place (cp. **Karstien** 1956:223); further, the occurrence of *\*-is-* as an aorist suffix without phonotactic motivation is most irregular.

<sup>3</sup> This notion occurs already in **Aytōnean** (1885), but is successfully refuted by **Vogt** (1937:6), according to whose study no differentiation along morphological lines between active and medio-passive in the participle is forthcoming; for a discussion of this question see also **Abrahamyan** (1953:170ff.).

elsewhere found attached only to verbal roots or present-like stems<sup>4</sup>. It seems unusual, therefore, that it should attach to such a complex stem as suggested by MARIÈS; his appeal to the ‘extrémisme arménien’ (1930:170) does not lend the model any more credence.

In contrast, KLINGENSCHMITT (1982:55) considers the *-eal* participle to be an intrinsically deracinal formation, where the *\*-lo-* suffix attaches directly to the verbal root. Evidence that such formations are indeed early is presented by adjectives in *-eal* which derive from nouns or whose base verbs are unattested (e.g. *alceal* ‘salted’, cp. *alt* ‘salt’), or which have been lexicalised (e.g. *arbeal* ‘intoxicated’, *merjeal* ‘close by’). All participles are then explained in two stages of analogy: on the basis of *-em* verbs like *berem* ‘to carry’, whose aorist synchronically appears to be formed on the bare root<sup>5</sup>, denominative *-em* verbs of the type *gorcem* also form their participle on the bare root<sup>6</sup>. In a second step, the *-eal* participle is reanalysed as attached to the aorist stem, wherefore verbs with weak, *-c’-* aorists form participles in *-ec’eal*<sup>7</sup>.

KLINGENSCHMITT’s model also leaves open important questions: it does not address the problem of the *-ea-* vocalism in the participle, the resolution of which is critical for the derivation of the form. Further, his analogical model raises the question why the *gorcem* type, which also forms a weak aorist in *-c’-* and is historically younger and thus presumably less developed than the *berem* type, followed a different analogy to verbs of a comparable age, e.g. the type *yusam* ‘to hope’, particularly since both are denominative formations.

<sup>4</sup> *\*-lo-* forms are a productive part of the verbal system only in Tokharian, the Slavonic languages, and Armenian. In Tokharian, *\*-lo-* attaches to the present or subjunctive stem of the verb (cp. **Thomas** 1952:11; **Malzahn** 2010:49); there is an ongoing debate, however, whether TA *-l*, TB *-lle* derive from *\*-lo-* with secondary differentiation within Tokharian (**Thomas** 1952, 1977), or whether an underlying form *\*-lyo-* is phonologically more felicitous (van Windekens 1976; Hackstein 2003; Malzahn 2010). For Slavonic, **Trost** (1968:88–90) informs that a variety of stems are used, none of which directly relate to tense marking on the Indo-European level, however.

<sup>5</sup> In historical terms, the aorist of *berem*, 3.Sg. Aor. *eber*, is of course derived from an old imperfect *\*(h<sub>1</sub>)e-b<sup>h</sup>er-e-t*, cp. Skt. *ábharat*, Gk. *ἔφερε*.

<sup>6</sup> The view that the *-eal* participle was originally restricted to *-em* verbs was already expressed by **Solta** (1963:123).

<sup>7</sup> **Klingenschmitt** (1982:57), like **Meillet** (1936:129) and **Mariès** (1930:170) before, also attempts to explain the nature of the formation, arguing in favour of a verbal abstract, while his predecessors suggested a *nomen agentis* or *actionis*; this aspect of the debate will here not be discussed any further, since it contributes little to the solution of the morphological question.

GODEL (1975:129) also considers the formational origin of the participle to lie with synchronic root aorists (type *berem*), on the basis of which the participle was analogically extended:

*beri* : *bereal* :: *asac* 'i : *asac* 'eal<sup>8</sup>.

The precise provenance of *-eal* is not further discussed.

A different system is put forward by STEMPEL (1983:62, 67), who suggests that the *-eal* participle derives from the *-el* infinitive, specifically as occurring in *gorcem* type verbs, in analogy to the vocalism of the aorist<sup>9</sup>. Thus:

*gorcec* 'i : *gorceac* ' :: *gorceloy* : *gorceal* (< \**gorcél*)<sup>10</sup>.

From there, the formation spreads throughout the paradigms. STEMPEL fails to answer relevant questions: why does a form built on a present infinitive develop into a participle, rather than into an aorist infinitive<sup>11</sup>? Why is the analogy restricted to *-em* verbs, esp. of the denominative *gorcem* type – surely other conjugational classes could have been taken as basis for this pattern, too<sup>12</sup>?

In spite of the history of the debate and the plethora of suggested solutions<sup>13</sup>, all of which successfully address some issues of the historical morphology of the *-eal* participle, it is evident that no explanation which seeks to link aorist and participle formation has yet been able to account for all irregularities. The question arises therefore, whether the synchronic similarity between aorist and participle formation (with the exception

<sup>8</sup> At the same time, Godel suggests that the form underlying *-eal* is PArm. \*-al; the *-ea*-vocalism is said to have arisen only in combination with a root vowel, as in, e.g., *k'alc'eal* 'hungry' < \**k'alc'i-al* (from *k'alcnum*, *k'alc'eay*). He preempts arguments against this derivation which focus on the fact that the numerically small basis of such formations is unlikely to furnish large-scale analogies, by pointing to the possibility that this type of participle may have been more common before the introduction of causative-based aorists for this verb type, e.g. *p'axč'im*, ptcp. \**p'axial*, later *p'axuc'eal*. Still, this explanation cannot convince due to the speculative nature of the argument, and lacking detail in the analysis of the vocalism.

<sup>9</sup> Stempel accepts the general explanation of the *-c'*- aorist as proposed by, *inter alia*, Schmitt 2007; see further §3 below.

<sup>10</sup> That is, the ablaut which occurs in the aorist between stressed *-ea-* and unstressed *-e-* is extended to the infinitive, which is thus aligned with the aorist.

<sup>11</sup> It is, of course, conceivable that at the time of analogy, the *-el* form had not yet taken that sole function; the question remains why both formations show a different outcome.

<sup>12</sup> For further perspectives on Stempel's suggestion, see de Lamberterie (1985) and Weitenberg 1986.

<sup>13</sup> The present account cannot be and does not claim to discuss all solutions put forward; the models whose core arguments are mentioned here do, however, give a good overview of the situation.

of *gorcem* type verbs) is indeed rooted in historical fact, or whether a different approach is called for.

§3 Accordingly, a brief enquiry into the historical morphology of the aorist is required<sup>14</sup>. A model attempting to explain the Armenian aorist formation must be able to account for, at the very least, the following issues: firstly, the occurrence of historical imperfects (*eber*<\*(h<sub>1</sub>)e-b<sup>h</sup>er-e-t; cf. fn. 5) as aorists; and secondly, the different types of weak aorists in -c' (e.g. *lnum*, *lc'i* 'to fill'; *asem*, *asac'i* 'to say'; *sirem*, *sirec'i* 'to love'; etc.).

The question of the relation between imperfect formations of Indo-European age and the Armenian aorist has been addressed most succinctly by KLINGENSCHMITT (1982:128), who suggests that '[d]ie Verwendung der Fortsetzer des urindogermanischen Imperfekts als Aorist erklärt sich ... wohl durch den Umstand, daß die zugrundeliegenden Wurzeln *h<sub>2</sub>eg* und *b<sup>h</sup>er* im Urindogermanischen keinen Aorist bildeten'; accordingly, imperfects took on the role of the aorist. With the exception of those verbs which have retained their root or sigmatic aorists<sup>15</sup>, the Indo-European imperfect marker \*-s<sup>h</sup>k- accounts for the vast majority of aorist forms in -c'<sup>16</sup>; SCHMITT (2007:145) sees the reason for the frequency and dominance of this novel aorist formation in the fact that 'idg. Verba denominativa keine zugehörigen Aoristformen besaßen', wherefore the

<sup>14</sup> As a result of the long and complicated history of the subject and the debate surrounding it, this account cannot endeavour to cover all perspectives. Only the most economical and widely accepted model is discussed here.

<sup>15</sup> On this matter, see **Kortlandt** (1987, 1995, 1996); while he overstates the importance of the sigmatic aorist, the basic tenets of his argumentation are interesting: he takes up an idea originally proposed by **Pedersen** (1906:423), according to whom verb like *anicanem* 'to curse', aor. *anēc* (cp. Gk. ὀνειδος 'reproach, rebuke'), or *xacanem* 'to bite, chew', aor. *exac* (cp. Skt. *khādati* 'id.') are sigmatic aorist formations on which the present stem was built (cp. **Kortlandt** 1987:51; **Bugge** 1893:47). Kortlandt's later attempts at explaining -c' aorists as the outcome of the analogical spread of sigmatic aorists (1995:15; 1996:43) rely to heavily on analogy on the basis of a relatively small set of verbs, and partly contravene established sound laws.

<sup>16</sup> This correlation has been recognised already by **Meillet** (1936:115), who relates the Homeric iterative imperfects Gk. φάσκον 'to say, affirm', φεύγεσκον 'to flee', etc. **Karstien** (1956:227) argues that \*-s<sup>h</sup>k- cannot be a past marker, since it also occurs in the present tense, e.g. *harc'anem* 'to ask' < \*pr<sup>h</sup>k -s<sup>h</sup>ke/o-; this argument is, however, misguided since the nasal present in *harc'anem* may well be built secondarily on a past tense form.

imperfect was generalised<sup>17</sup>. CLACKSON (1994:82) sees the origin of the the Armenian aorist in a suffix \*-ā/ǎ-sk-, which initially attaches to verbs in *-num*, *-am* and *-anam*, but thence spreads analogically to *-em* verbs<sup>18</sup>, there, the suffix is added to the stem vowel *-e-*, yielding *-eac'*. Forms such as *lc'i* 'to fill' < \*(h<sub>1</sub>)e-pleh<sub>1</sub>-sk- are explained as being formed directly from the root, differing from comparable Greek forms in the full grade of the root.

The model advocated by CLACKSON makes the fewest assumptions and only minimally relies on analogy, and therefore solves the problem most succinctly. Whether an interfix \*-ā/ǎ- of Indo-European age is required for the explanation remains debatable, however. In view of the aorists of the *-num* verbs (*lnum*, *lc'i*; *ənkenum* 'to throw', *ənkec'i*; etc.), it could be argued that the \*-sk- marker was attached, in a stage of Proto-Armenian in which original Indo-European verbal formations had become opaque, to what was perceived as the verbal stem, including stem vowel.

On this basis, it is evident that the *-ea-* vocalism is an innovation in Proto-Armenian, and is unlikely to bear any inherent morphosemantic function; the actual aorist marker is *-c'*.

§4 This formational model of the Armenian aorist has a number of implications also for the derivation of the *-eal* participle. If it is assumed, as suggested above, that the \*-sk- aorist originated with *-num* verbs, thence spreading analogically to other verbs with a stem vowel *-a-*, and finally to the denominatives in *-e-*, resulting in *-c'*, *-ac'*, and *-eac'* aorists, an explanation along the lines of MARIÈS, according to which the \*-lo- suffix is attached to the vocalic part of the aorist stem, is not satisfactory, since the analogically arisen *-ea-* vocalism of the aorist is not morphologically meaningful, i.e. the vocalism is not specifically marked as 'past', 'aorist', or the like. While morphological analysability is not a prerequisite for a stem formation, it seems unusual that actual tense marker *-c'* should be subtracted for the formation of a past participle.

It is, of course, not inconceivable that this vocalism should, over

<sup>17</sup> Concerning the *-ea-* vocalism, Schmitt follows Godel (1975:128) in interpreting *-ea-* as secondary to *-e-*, which adopts a different ablaut grade under stress. This line of argument has been refuted already by Hübschmann (1895:411), and more recently by Clackson (1994:81–2), in view of aorist forms such as *eker* 'to eat', *ebek* 'to break'.

<sup>18</sup> Verb such as *gitem* 'to know', aor. *gitac'i* had not yet been integrated into the *-em* group, wherefore they receive the original *-ac'* suffix.

time, be associated with the aorist, and acquire meaning secondarily. Accordingly, MARIÈS's solution could be applied in a modified manner, assuming a formation of the participle in a late stage of Proto-Armenian, at which the *-c*'- aorist had been firmly established<sup>19</sup>. In this model, the historically most recent forms in *-eac*'- are taken as the basis on which *-eal* is built; only reanalysis of the form as built on the verbal root and analogical levelling, however, can cause verbs with strong aorists like *berem* to develop forms in *-eal*. More problematically, in order to arrive at forms such as *mnac*'*eal* 'to remain', a further reanalysis is required, this time on the basis of the *berem* type verbs, in which verbal root and aorist stem are synchronically identical. Finally, the process would have to return to its origins, the verbs in *-eac*'- and there start over to yield, e.g., *hayec*'*eal* 'to look', and secondary forms like *sirec*'*eal* next to *sireal*.

This model is far too complex, requires too many steps of analogy and reanalysis, and still leaves unanswered the question why the suffix itself does not vary, and why in most verbs, from a synchronic perspective, the participle is attached to the aorist stem, but not in denominatives like *gorcem*<sup>20</sup>.

§5 Instead of perpetuating the assumption that aorist and participle formation are linked intrinsically, it is worth exploring alternatives in which this relationship arises only secondarily, and in which the *-ea*-vocalism develops independently in both forms.

Given the morphophonological restrictions, the possibilities are severely limited. The most promising solution is related to the formation of Armenian *i*-stem verbs, which are largely passive-intransitive. MEILLET

<sup>19</sup> Taking into account nominal formations like *alceal* 'salted' mentioned above, this seems like an unlikely timing. The *\*-to-* past participle employed in other many other Indo-European languages became phonologically unstable quite early in the history of the language and yielded very varied outcomes (cf. Beekes *apud Kortlandt* 2003:173–4); the few remnants of such formations, such as *mard* 'man' < *\*mr̥-to-* and *li* 'full' < *\*pl̥h<sub>1</sub>-to-* demonstrate its unsuitableness for the formation of regular paradigmatic forms. It stands to reason, therefore, that the *\*-lo-* participle replaced *\*-to-* at a time not too far removed from the fall out of use of the former.

<sup>20</sup> There are two main denominative types in Classical Armenian: verbs of the type *gorcem*, frequently built on lexical material from other languages, continue Indo-European denominative formations in *\*-ye/o-*; slightly different semantics apply to the type *yusam*, likely built by means of a suffix *\*-ah<sub>2</sub>-ye/o-* and endowed with the meaning 'to have, do, deal with, be like X' (cp. Klingenschmitt 1982: 89–91, 139). Other denominative formations do exist, but are of no particular relevance in the present context.

(1936:107-8), and with him GODEL (1975:120), relates these verbs to athematic variant \*-i- of the \*-ye/o- suffix accountable for the -ya- passives in Vedic and the Indo-Iranian languages; the athematic variant occurs in Balto-Slavic, e.g. Lith. *sėdi* ‘he is seated’, *tùri* ‘he has’, OCS *sěditŭ* ‘he is seated’, *bŭditŭ* ‘he is awake’<sup>21</sup>.

Since these \*-ye/o- passives frequently express states, and are thus close in character to the perfect (cp. SPECHT 1934:31), and since in Armenian and Indo-Iranian they have also taken on passive functions (cp. SCHMIDT 1975:91), this formans meets some of the semantic requirements expected of the Armenian past participle based on its usage, effectively rendering it a verbal adjective in \*-lo-. For phonological reasons, it is necessary to assume that the thematic variant of this suffix, specifically \*-iye/o-, should have furnished the -ea- vocalism of the participle<sup>22</sup>. Phonological parallels can be found partly in -ea- stem nouns of the type *tari* ‘year’, Instr. Sg. *tareaw*, in which original \*-i- is lowered to -e- (cp. OLSEN 1999:113–4) and other paradigmatic alternations like *jiwn* ‘snow’, Gen.Sg. *jean* (1999:135; also cp. MARTIROSYAN 2010:434–5) or -ut ‘iwn, -ut ‘ean (cp. OLSEN 1999:550–1). Parallels for a development \*-e/o- > Arm. -a- are less readily available, but *tasn* ‘ten’ < \*dek̄m- and *vat* ‘sun’ ‘sixty’ < \*s̄ek̄s- (cf. Arm. *vec* ‘six’) may be adduced for precedent; in addition, a dissimilatory change could be invoked, since a PArm. \*-e-e- would have contracted and thus fallen together with the stem of thematic and some denominative verbs. In the case of an o-grade, a rendition as -a- in open syllable is far more common, as delineated by MEILLET (1894:153–5); KORTLANDT’s restriction of \*-o- > -a- to environments in which the following syllable does not contain another -o- (1983:10) is remedied by the apparently late application of this sound change, after the apocope of the final syllable. Examples of such a development are Arm. *alík* ‘waves, white hair’ < \*polyo-, cp. Gk. *πολιός*, and *asr* ‘wool, fleece’ < \*pok̄u-, cp. Gk. *πόκος*, Skt. *pásu* (< \*pek̄u-) <sup>23</sup>.

<sup>21</sup> Meillet remarks, however, that in some cases, such as Arm. *nstim* ‘to sit’, the *i*-vocalism should be derived from \*-ē- or \*-ēye-; see KLINGENSCHMITT (1982:129–31) and SCHMIDT (1975:93) for different views.

<sup>22</sup> Since there are no indications that Sievers’ Law applied in Armenian (cf. Barber 2013), it can only be presumed that the form \*-iye/o- was chosen either as a generalisation, or in order to avoid homophony with the denominative \*-ye/o- > Arm. -e-; alternatively, albeit less likely, the suffix could be a secondary thematisation of the athematic \*-i-, yielding \*-i-e/o-.

<sup>23</sup> For a discussion of the etymology of *asr*, see Martirosyan (2010:122–3), Clackson (1994:159–62). A similar development -ea- < \*-i(y)-a-, but in relation to the vocalism of

If in this instance, the phonological development, i.e. \*-iye/o- > PArm. \*-i-e/o- (regular loss of intervocalic \*-y-) > Arm. *-ea-*, is accepted, it may be assumed that the original development of this form would have occurred in the primary *-em* verbs like *berem*, based on root or present stem<sup>24</sup>. Accordingly, for *berem* the following development may be expected: PArm. \*ber-iye/o-lo- > \*ber-ie/o-lo- > \*ber-ee/o-lo- > \*ber-ea-lo- > *bereal*. As has been noted above, it is only in *-em* denominatives of the type *gorcem* that the participle is synchronically not built on the perceived aorist stem; as it seems unlikely that the formation of the participle should have begun with this verbal class, it is necessary to assume that they were treated in analogy to the primary *-em* verbs. In a second step of analogy, the *-eal* participle was taken as being formed on the aorist stem of *berem* type verbs, and participles of verbs in *-num*, *-am*, *-anam*, etc., formed accordingly; alternatively, the aorist stem may have been chosen as a formational basis for different reasons<sup>25</sup>.

This morphological derivation has the advantage of lending further credence to the argument of, e.g., STEMPEL (1983), who perceives the *-eal* participle to be historically passive-intransitive, confirmed by the quantitative observations of VOGT (1937:51, index locorum) and lexicalised participles such as *meʕeal* 'dead person', *aʕak'eal* 'herald; apostle'. It is the voice alignment of the newly formed participle, too, which allows it to take the place of the ousted \*-to- participle, which in itself is not tense-marked; judging from nominal and adjectival \*-lo- formations such as *joyl* 'smelted' < \*ǧ<sup>h</sup>e/ou-lo-, assuming an analogical replacement of a \*-lo- adjective for a \*-to- adjective seems plausible also on aspectual grounds, since e.g. *tesil* 'sight' implies a resultative that agrees, at least to some extent, with the past tense function to be fulfilled.

In addition to re-affirming the passive-intransitive nature of the

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the medio-passive aorist *-eay*, was suggested already by Mariès (1930:173), but without further reasoning.

<sup>24</sup> It is impossible to determine whether the suffix \*-iye/o- should attach to the root or stem, since the phonological outcome would, under the assumptions above, be the same.

<sup>25</sup> For *berem* and *gorcem* type verbs to be treated identically, their formation can no longer have been obvious at the time the participle was formed. The question remains why *-em* denominatives were treated differently from those in *-am* and the other classes mentioned above. One possible, if speculative, explanation concerns the semantics of those verb classes with a participle built on the aorist stem; it is conceivable that in these verbs adding *-eal* to the verbal root would have meant a loss of, or significant difference in, semantics, wherefore the associated aorist was chosen instead. Consider *yusac'eal* 'hoped, desired' vs \*yuseal 'concerning hope (?)'.

participle, this model further does not require analogical processes to happen on the basis of the semantically and morphologically opaque *-ea-* vocalism of the aorist, nor does it assume that the innovation of the Armenian past participle only began after the development of the aorist had been completed.

§6 The formation of the Classical Armenian past participle by means of an *\*-iye/o-* suffix as found in, e.g., Indo-Iranian constitutes a phonologically plausible, independent, and more economical explanation of this form than previous attempts. It gives a morphological dimension to the historically passive-intransitive character of the participle, which is corroborated by nominal forms showing a similar formation in Armenian, the evidence from Indo-Iranian, and the characteristics of the *\*-to-* participle which was most likely replaced by *\*-lo-*.

While it is hoped that this model will go some way in clarifying the historical development of the past participle, there can be no doubt that much work remains to be done especially as concerns its usage in the periphrastic perfect. The construction of the transitive perfect, in particular, has been the subject of debate for over a century, but a completely satisfying explanation of its unusual alignment is yet to be found<sup>26</sup>. The analyses offered so far have all failed to account for all issues surrounding this construction, or err in their premises<sup>27</sup>. Future enquiries into this subject may want to take into account the morphological model presented above, thus engaging with an inherently passive-intransitive participle, but must also explore obvious avenues which have been neglected so far: influence from the neighbouring Iranian languages, particularly Par-

<sup>26</sup> The transitive perfect is formed with the participle and an optional third person singular copula. The agent is most frequently found in the genitive, whilst the direct object is expressed as an accusative. The copula, where present, is invariable and is not congruent with agent or object.

<sup>27</sup> The assumption of **Meillet** (1936:128–9) that *-eal* participles are in fact *nomina actionis*, taking part in both nominal and verbal rection (possessive genitive, object accusative), has been believably refuted by **Deeters** (1927:80) and **Benveniste** (1952:58), esp. on the grounds that it does not explain why the intransitive construction does not have a possessive genitive ‘agent’. **Benveniste** (1952, 1959) himself advocates a ‘have’-perfect as occurring in other Indo-European languages, but cannot account for the accusative case of the object (cp. **Stempel** 1983:73–4). Other, more recent explanations exist (**Stempel** 1983; **Weitenberg** 1986; **Schmidt** 1972, 1980), but similarly suffer from inherent issues and cannot be discussed here.

thian<sup>28</sup>, which in its periphrastic past tense shows a not dissimilar construction<sup>29</sup>. Given that all explanations relying solely on evidence internal to Armenian have not succeeded in explaining all key aspects of the transitive perfect construction, it will prove necessary to explore the possibility that the pattern mentioned above has arisen under influence from Parthian<sup>30</sup>.

### References

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<sup>28</sup> The intense lexical relationship between Armenian and Parthian has been evident since the seminal work of **Hübschmann** (1877); potential influence on the level of syntax has been discussed by, e.g., **Meyer** (2013).

<sup>29</sup> Parthian is a split-ergative language; similarities between the Armenian transitive perfect and ergative alignment have previously been brought up in the context of possible Caucasian influence (cf. **Lohmann** 1937; **Schmidt** 1972, 1980). The interaction with Kartvelian, however, is unlikely to have yielded such complex patterns (cf. **Djahukian** 2002; Gippert 2005), and has been refuted already by **Deeters** (1927). Some of Schmidt's analyses can be projected onto Parthian, however (also cf. **Schmidt** 1992:299-300).

<sup>30</sup> Pattern replication of this type and extent is not uncommon; a geographically proximal case is the rise of ergative features in Neo-Aramaic under the influence of Kurmanci (cf. **Haig** 1998).

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### Ռոբին Մեյեր

#### Նոր մոտեցում գրաբարի անցյալ դերբայի պատմական ձևաբանությանը

Գրաբարի անցյալ կատարյալ ժամանակի պատմական ձևաբանության կապը հնդեվրոպական նախալեզվի հետ քննարկվել է ավելի քան հարյուր տարի: Ժամանակակից հետազոտությունները ցույց են տալիս, որ անցյալ կատարյալ ժամանակաձևերի մեծագույն մասը՝ -ց- / -աց- / -եաց- ածանցներով, ծագել են հնդեվրոպական \**-sk-* ձևից: Սակայն դեռևս պարզ չէ, արդյոք -եալ ձևով կազմված անցյալ դերբայը, որը բայերի մեծամասնության դեպքում անցյալ կատարյալ ձևի վրա է հիմնված, կապված է անցյալի կազմության հետ, քանի որ մի քանի բայերի դեպքում, օրինակ, «գործել», անց. «գործեաց», դեր. «գործեալ», դերբայը անկատար ներկայի վրա է հիմնված: Հոգևածում առաջ է քաշվում այն վարկածը, որ անցյալ դերբայը անցյալ կատարեալ ձևից անկախ է, քանի որ հիմնված է հնդեվրոպական կրավորական \**-iyā-* ածանցի վրա, որը կա նաև Վեդերենում: Այս պատճառով անցյալ դերբայը սկզբնապես պետք է կրավորական սեռի մաս կազմեր: Հոգևածի վերջում հետևյալ հարցն է բարձրացվում՝ ինչպե՞ս է հնարավոր, որ անցողական վաղակատար ներկան այս կրավորական դերբայով բաղադրյալ կազմություն է: