On the *ana*-presents of Armenian

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Abstract

The Classical Armenian *ana*-present together with the *acʽ*-aorist characterized the verbal class of heterogenic lexico-syntactic nature. The aim of the article is to uncover the functional landscape of this class in order to find arguments for far-reaching Indo-European comparisons. The second part of the article advocates the archaic pedigree of -*ana*- (as opposed to the later -*ane*- and -*ani*- present suffixes), and its affinity to PIE *-n̥H-(i̯)e/o- (cf. Gr. -ἀνω, -αίνω, Skr. -*āyá*-, -*anyá*-, Toch. -*ññ*-) as compared to some other offshoots of the Proto-Indo-European verbal class characterized by the *n*-infix present (Hitt. -*anna/i*-, PGerm. *-nō-/*-na-).[1]

1. Synchronic remarks

1.1. The Classical Armenian present stem markers evolved on the crossroad of such grammatical categories as the voice (active and medio-passive), aspect (imperfective and perfective), and a number of modes of action. Although these categories were not being regularly expressed throughout the verbal system, they were the true engines of the morphological change both in the pre-history of Armenian and later on. This should also be the case with the -*ana*- suffix, the most productive of all nasal present suffixes in Classical Armenian, which forms present stem in few primary verbs (i.e. without synchronically attested motivating nouns)[2] and over three hundred denominatives formed from nouns, adjectives, and adverbs of both inherited lexicon and loanwords. I shall briefly review the place of the -*ana*- suffix with regard to the above-mentioned categories within the synchrony of Classical Armenian.

1.2. The voices were formally neutralized in the present indicative of the *ana*-class, while they were differentiated in the present subjunctive; the forms of the paradigm derived from the aorist stem could differentiate voices by means of the regular active and medio-passive inflections. Most of the *ana*-verbs were deponent showing only medio-passive inflection regardless their argument structure. According to diathesis, the *ana*-verbs can be classified into the following groups: 1) intransitive (middle); 2a) transitive (active)/intransitive (passive or middle) in which the transitive forms were expressed by (a) the active inflection or (b) the medio-passive inflection. Examples are: 1) *əntʽanal* 'run',

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[1] I would like to thank Professor Georges-Jean Pinault for comments on an earlier draft of this paper, as well as Michaël Peyrot and Andrey Shatskov for providing me with valuable data and comments on Tocharian and Anatolian verbal classes respectively. All possible mistakes are of my own.

The consistent investigation of the traces of the *n*-infix presents in Armenian goes far beyond the scope of this paper. In particular, I will not elaborate on the history of the present suffix -*nu*- which characterized another markedly intransitive Classical Armenian verbal class. Besides standard reference works on the Armenian historical morphology, see Greppin 1973 and Hamp 1975 for the detailed discussion of the Armenian nasal suffixes and their origin.

[2] In some cases, it is hard to say whether a verb is primary or denominative. Thus, Klingenschmitt 1982: 124–125 hesitates about *armanal*, *hianal*, *imanal*, *moṙanal*, and *uranal*. Greppin 1973: 197 assumes Indo-European origin of *goḷanal* 'steal' (although *goḷ* 'thief' is attested) and compares it with Lith. *privìlti* 'cheat'; likewise, Hamp 1975: 104.

loganal 'bathe', *slanal* 'fly, rush', and *ucanal* 'get cold'; 2a) *banal* 'open/receive sight', *luanal* 'wash/wash oneself', and *tʻanal* 'make wet/become wet'; 2b) *imanal* 'understand/know', *moṙanal* 'forget/be hidden', *stanal* 'receive, establish/remain', and *uranal* 'deny/refuse'.

1.3. The aspect of the Classical Armenian verb was inherently imperfective in the present indicative, while it was markedly imperfective in the imperfect and present subjunctive as opposed to the perfective aorist indicative and aorist subjunctive. Thus, *-ana-* together with the other present suffixes had strong imperfective value.

1.4. According to the mode of action, the *ana*-verbs can be classified as follows:

1) Eventive verbs: a) motions, mental and verbal actions, e.g. *ǝntʻanal* 'run', *imanal* tr. 'understand', and *uranal* 'deny'; c) factitives, e.g. *tʻanal* tr. 'make wet'; d) inchoatives, e.g. *tʻanal* intr. 'become wet', *kʻałcʻanal* 'become hungry'.

2) Statives verbs: physical, emotional, and mental conditions, e.g. *žatanal* 'be angry', *imanal* intr. 'know'.

Denominative inchoatives and statives were the most numerous representatives of the *ana*-class. The stative type could be alternatively expressed by an analytic construction with the auxiliary *linel* 'be', cf. *kokozanal, kokoz linel* 'be proud'. In part, the *ana*-stem overlapped with the *a*-stem of the moderately productive type of stative denominatives, whence over a dozen of pairs like *ǝłjanal, ǝłjal* 'wish' (see fn. 7). Importantly, the *a*- and *ana*-classes exclusively share the *acʻ*-aorist.[3] Otherwise, *-ana-* is found at variance with *-ane-* /*-ani̯-*. The only intransitive verbs of the whole *ane*-class are verbs of motion (e.g. *ancʻanel* 'approach'). In some cases, there seems to be a free variation of *ane-* and *ana*-stems, cf. *dizanel* (Macc. 1: 3) and *dizanal* (Dan. 3: 7) 'rise up'. Many of the *ani*-verbs are intransitive counterparts of the *ane*-verbs. The following derivational chain leads to synonymous *-ani-* and *-ana-* pairs: *zatanem/zatanim* 'I separate/am separated' → *zat* 'part' → *zatanam* 'I am separated'. Therefore, one should distinguish between the two layers of the *ana*-verbs — the primary verbs which could be more archaic than verbs in *-ane-*/*-ani̯-*, and secondary denominative ones.

2. Diachronic remarks

2.1. The lack of secure lexico-morphological correspondences in other languages makes ambiguous the analysis of the *-ana-* suffix. From the diachronic point of view, it can either be segmented as *-a-na- (2.1.) or be treated as *-ana-* from *-n̥H- (2.2.). The *acʻ*-aorist provides little help in drawing the diachronic morphological boarder being as ambiguous (either from the root aorist or *a*-stem aorist with the later spread of *-(a)cʻ-* from the *a*-verbs.

2.1. *-neH-/*-n̥H̥-. The *-na-* suffix can be recognized as a component of *-ana-* on the ground of comparison with the synchronically attested *na*-presents *baṙnal* 'lift' < PArm. *barj-na-* and *daṙnal* 'turn' < PArm. *darj-na-*, both certain Proto-Armenian morphological innovations derived from aniṭ-roots. Further evidence would be *sla-na-l* 'fly, rush' along with *sla-kʻ* 'arrow' (cf. Skr. *śū́la-* 'pike', Lat. *culex* 'mosquito', see Olsen 1999: 70). The productivity of *-neH-/*-n̥H- suffix already in PIE is a matter of debate. At least, the suffix was used to build stems to aniṭ-roots in Sanskrit (*-nā-/-nī-*), Greek (*-νη-/-να-*), Armenian (*-na-*), and Germanic languages (*-nō/*na-*).

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[3] The few notorious exceptions are: *asacʻi* (pres. *asem* 'I say'), *karacʻi* (pres. *karem* 'I can'), *martʻacʻi* (pres. *martʻem* 'I can'), *gitacʻi* (pres. *gitem* 'I know', the variants *gitanam* and *gitenam* 'consuetudinem habeo', with medio-passive aorist *gitacʻay* show the semantic change, which probably has to do with the iterative usage of the *ana*-stem), cf. Klingenschmitt 1982: 135–139. The four verbs fit well to the lexico-syntactic features of the *a*- and *ana*-classes.

This solution seams quite probable for verbs *banal, luanal, stanal,* and *tʻanal,* which all go back to the seṭ-roots, so that the first *-a-* can be explained as the reflex of laryngeal. Hübschmann 1897: 452, 492 accepts such segmentation for *luanal* and *stanal*; Godel 1975: 124–125 seams to treat all the *ana*-verbs in the same way without explicitly explaining the origin of the first *-a-* in the suffix; hence, his comparison of Arm. *lianal* and Goth. *fullnan* 'become full' is ambiguous.

Stanal is probably the only of the above-mentioned verbs, which has correspondences in the other languages pointing to the Proto-Indo-European *n*-infix present (see 2.2.1.). In my view, this fact makes non-convincing Klingenschmitt's (1982: 112–115) analysis of *banal, stanal, tʻanal,* and *ᵊntʻanal* as reflecting *-n̥- of the *n*-infix zero-grad especially in the case of the two-consonant roots PIE *bʰeh₂- (Arm. *banal*) and PIE *teh₂- (Arm. *tʻanal*). On the contrary, it is highly probable, that Proto-Armenian inherited the *-naH-/*-nH- (or *-nā-/ *-na-) suffix; whether it had a function to derive transitive factitive verbs from intransitive ones is not clear — all the above-mentioned *ana*-verbs, as well as the *na*-verbs have intransitive usages along with the transitive ones.

Regarding the continuants of the secondary *-neH- stems in the daughter languages, the 4th weak class of Proto-Germanic verbs is particularly interesting due to the strong functional parallelism with Armenian. It included either intransitive fientive deverbatives or inchoative denominatives (cf. Ringe 2006: 176–179, 258–260). Evidently, the *-néH-/ -n̥H̥- suffix resulted from the reanalysis of the CR̥-né-H- type stems triggered by the contraction of laryngeals with the preceding vowels and the loss of laryngeals in other environments (PIE *tl̥h₂- > PGerm. *tul- ~ PIE *tl̥-né-h₂- > *tulnā́- → PGerm. *tul-nā́). Still, this productive Proto-Germanic suffix (note that none of the primary verbs listed in Ringe 2006: 259 go back directly to the *n*-infix present) is markedly intransitive.

2.2. The other possible source of the verbs in *-ana-* is *-n̥H-.

2.2.1. *-ne-H-/*-n̥-H-. Theoretically, *-ana-* could be an outcome of *n*-infix presents from the seṭ-roots of the *C(C)-né-H- type in which the nasal would vocalize or be pre-vocalized in the zero-grade after a consonant. I assume that *stanal* tr. 'obtain; establish', intr. 'remain' is the only verb, which could go back directly to the Proto-Indo-European *n*-infix present of such structure, namely PIE *st-ᵊné-h₂-/*st-ᵉn-h₂-, cf. Hitt. *istanh-ᵐⁱ* 'taste', Lat. *destināre* 'destine', maybe also PIr. *stān-* 'take, receive'. One of the possible ways to account for the semantics would be as follows: PIE *steh₂- 'stand up' (perfective middle) → *st-ᵊné-h₂- 'make stand (act.); become (mid.)' (imperfective) → *st-ᵊné-h₂- 'make stand for oneself, get' (imperfective middle in the self-beneficent function, cf. Skr. *dhā* 'put (act.); take (med.)', see Kulikov 2007). [4] The other explanation of *stana-* would be that the secondary Proto-Armenian *na*-present was formed from an inherited root aorist. Yet another possibility is an Iranian borrowing, cf. Parth. *ʻstʼn* 'take (away); receive (letter)', YAv. *frastan-* 'take, convey forward', see Cheung 2007: 361 for the reconstruction of PIr. *staHn-* 'take' distinct from *staH- 'place, set, stand'.

Besides the PArm. *-nā-/*-na- suffix and PIE *-n̥- infix allomorph, one may seek the origin of *-ana-* in the following hypothetical structures: *-n̥H- (an allomorph of *-neH-, cf. 2.1.), thematized *-n̥H-é/ó-, or *-n̥H-i̯é/ó-. [5] In what follows, I shall discuss the attestations

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[4] See Cowgill 1973 and LIV: 590–592 for details on the functional and semantic reconstruction of *steh₂-.

[5] It is well known, that the development of the zero-grade of the *n*-infix presents (*CR̥-*n*-C- type) is an exception from the general rule of sonorant syllabification; when following a sonorant, the nasal remains non-syllabic in front of another non-syllabic phoneme (cf. Skr. *pr̥ṇītá* < *pl̥nh₁-, Gr. δάμναμεν < *dm̥-n-h₂-, Lat. *linquit* < *li-n-kʷ-, etc.). In view of the root structure constrains proper to the *n*-infix presents, this seams to

of the thematized nasal suffixes in a number of Indo-European branches, most significantly in Greek and Indo-Iranian.

2.2.2. *-n̥H-e/o-. The explanation of Greek verbs in -άνω/-άνομαι as a development of *-n̥H-e/o- looks most convincing (Sihler 1995: 518–520). While the τάμνω type resulted from thematisation of the genuine *n*-infix present, the αὐξάνω type should reflect the secondary thematized nasal suffix. The latter, for some reason, avoided vocalization of a nasal in the cases of πίνω 'drink' and δάκνω 'bite'. The verbs belonging to these types are predominantly transitive, but few intransitive ones are attested as well, e.g. κάμνω 'become tired'. Significantly, the -άνω/-άνομαι verbs have the root aorist, cf. the root aorists of the Armenian *ane*-class. Now, if one assumes the formally justified development *-n̥H-e- > PArm. *-ana- and the subsequent conversion of the majority of transitive verbs in *-ana- to *ane*-class by analogy to the over-productive transitive *e*-class, the functional and morphological match would make Sihler's statement that the Greek -άνω/-άνομαι verbs „are unlike anything in the IE languages" (1995: 519) less certain, see Pedersen 1906: 357–360 for a different account of the Greco-Armenian correspondence.

2.2.3. *-n̥H-i̯é/ó-. The class of the Sanskrit *āyá*-presents, many of which are paired with presents in *-ná̄-/-nī̆-*, is best explained as a continuant of *-n̥H-i̯é/ó-, thematic derivative of the present stem in *-néH-/*-n̥H-, cf. *dm̥-néh₂- (Gr. δάμνημι 'subdue') → *dm̥-n̥h₂-i̯é/ó- (Skr. *damāyá-* 'id.'). The derivational model must be of at least the Proto-Indo-Iranian date (cf. Skr. *gr̥bhṇā́ti* : *gr̥bhāyáti*, YAv. *gərəβnāiti* : *gəuruuaiieiti*), and if the same thematic formation underlies the few Greek non-denominatives in -αίνω (cf. Gr. ὑφαίνω 'weave', Skr. *ubhnā́ti* 'attach'), it can be moved further back into the past.

According to Jasanoff 2003: 125–126, another trace of the *-n̥H-i̯é/ó- formation is the Sanskrit *-anyá-* suffix found at variance with *-āyá-* (cf. *damāyáti* and *damanyáti*), and YAv. *zaraniia-* 'be irritated'. In order to account for the different treatment of *-n̥H-i̯é/ó- (*-āyá-* and *-anyá-*), Jasanoff has proposed a purely phonological rule according to which Proto-Indo-Iranian long syllabic nasals (particularly, from *-n̥H-) shortened after an immediately preceding syllabic sonorant; he treats the cases like *damāyáti* as analogical to the *gr̥bhāyáti* type.

The agreement between Greek and Indo-Iranian would make the *-n̥H-i̯é/ó- formation a suspect for Proto-Armenian as well (especially in view of the preserved non-thematized variants Skr. *-ná̄-/-nī̆-*, Gr. -νη-/-να-, and Arm. *-na-*). I assume, that the regular outcome of *-n̥H-i̯é/ó- would be Arm. *-ana-*.[6] In this connection, one might think of an exact morphological correspondence between Gr. φαίνω and Arm. *banal* from *bh₂-n̥H-i̯é/ó-, cf. Chantraine 1968–1980: 1172 and hesitating Hamp 1975: 102.

The Sanskrit *āyá*-verbs are transitive/causative, which brings them together with the Armenian *ane*-verbs, while the ten Sanskrit *anyá*-verbs and the Avestan one, cited by Jasanoff, show more functional (if not etymological) connection with the Armenian *ana*-

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be an important aberration. Hence, the *-n̥H- allomorph, most likely, appeared only after the *-neH-/-nH- stem ending became a suffix, formally independent of the infixed presents. I assume that the present stem was reanalyzed before the loss of the final laryngeal, which led to the reanalysis of the aorist stem, also before the laryngeal loss, thus shaping a new verbal class with pres. *-néH-/*-n̥H-, aor. *-H- or the root aorist.

[6] Unfortunately, no decisive evidence is available for the relative chronology of the phonetic processes in the Proto-Armenian *-RHi̯- cluster. The development *-n̥H-i̯é/ó- > *-ana-i̯e- (cf. *čanač'el* 'know' < PIE *ĝn̥h₃sk(i̯)e/o-) > *-anae- > *-ana-* is possible, if the vocalization of nasals preceded the modification of the *-Hi̯- cluster (either the laryngeal loss, according to the Pinault's law or a *-Ci̯- type transformation into a single phoneme, presumably, -č̣-), cf. Beekes 2003: 193–194, 210; See Viredaz 2001–2002 for the arguments in favor of the later vocalization of syllabic sonorants.

verbs, cf. Skr. *turaṇyá-, saraṇyá-*, Arm. *slana-* 'rush'; Skr. *huvanya-* 'call', *ruvaṇyá-* 'cry', Arm. *urana-* 'deny'; Skr. *kr̥paṇyá-* 'desire', *riṣaṇyá-* 'suffer', and YAv. *zaraṇiia-* as compared to the Armenian verba affectuum in *-ana-* (e.g. *c'ankanal* 'desire'). Still, the correlations Skr. *-āyá-* ~ Arm. *-ane-* and Skr. *-anyá-* ~ Arm. *-ana-* are purely functional, for *-ane-*, if from *-n̥H-i̯é/ó-, can only be a secondary modification of Proto-Armenian *-ana-. The restoration of the thematic vowel is better explained in *-ane-* by the analogy to the *-i̯é/ó-presents:

IE *-e-i̯e- > Arm. *-e-* (tr.)

IE *-h₁-i̯e- > Arm. *-a-* (intr./tr. stative)[7]

IE *-n̥H-i̯e- > PArm. *-ana- → Arm. *-ane-* (tr.; intr. verbs of motion),
Arm. *-ana-* (intr./tr. stative and inchoative).

2.2.4. Yet another evidence for *-n̥H-i̯é/ó- is the Tocharian XII class of verbs with presents in *-ññ-* (cf. Pinault 1992: 141). The direction of the morphological development may be tentatively illustrated by Toch. A *klisnā-* (< *-nH-) and Toch. B *klänt͡säññä/e-* (<*-n̥H-i̯e-) 'sleep'. Both *-nā-* and *-ññ-*, although distinct suffixes, were paired with the *ā*-stem preterit (<*-H-, cf. Pinault 1992: 148). Some of the verbs are significantly intransitive, like Toch. B *wäskäññä/e-* 'move' and *näyttäññä/e-* 'break down'. Otherwise, the *ññ*-stem shows up in a class of denominatives denoting emotional and mental conditions, e.g. Toch. B *säkʷäññä/e-* 'feel happy', *sklokäññä/e-* 'doubt'. In part, these verbs emerged from the derivatives in *-i̯é/ó- of nominal *n*-stems, e.g. Toch. B *lareññä/e-* 'love' from *lāre* 'affection' < *lāren-), whereas the rest should be from stems in *-n̥H-i̯é/ó-. Again, the functional layout of the *ññ*-verbs resembles that of the Armenian *ana*-class. In this perspective, the comparison of Toch. B *tenkʷäññä/e-* and Arm. *tenč'anal* 'love' may appear to be exact in the late Proto-Indo-European terms.

2.2.5. *-n̥H-i-. In his discussion of the Hittite *-anna/i-* verbs, Jasanoff (2002: 122–127) has proposed to derive the Hittite suffix from the secondary present stem in *-i- built onto the stem in *-néh₂-/*-n̥h₂-, whence the non-ablauting variant *-n̥h₂-i-, which was retained in the plural forms but was replaced in the singular by back formations from the plural (thus, *iyannaḫḫi*, instead of *iyanniḫḫi < *-n̥h₂-i-h₂ei). According to another etymology, the *-anna/i-* suffix originated in a nominal stem, see most recently Kloekhorst 2008: 175–176, where Jasanoff's solution is rejected mainly because of its complex analogical scenario. Still, it stays unclear to me what exactly would make Jasanoff's reconstruction „impossible".

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7   The Classical Armenian *a*-presents, typically stative and denoting mainly mental and emotional conditions, bodily functions, and verbs of motion, are best explained as continuants of the Proto-Armenian stative stems in *-h₁-i̯é/ó- derived from the Indo-European statives in *-eh₁-. The detailed etymological analysis was provided in Barton 1990–1991, where the author pointed out similar morphological development in Greek. The thematization of *-eh₁- should had started before the lost of the laryngeal and might even had been inherited by Proto-Armenian and Proto-Greek from the common source. Although Barton's analysis of the *a*-presents is entirely convincing, his interpretation of the *-ana-* suffix as the continuation of *-h₁-(i̯e-)n(e)h₂-, a replacement of the earlier inchoative cluster *-eh₁-sk- (cf. Lat. *-ēsc-*), evokes strong doubts. First, the reconstructed cluster *-h₁-(i̯e-)n(e)h₂-, unlike *-nh₂-i̯e-, is not attested elsewhere. Second, the Germanic evidence proves that the presents in *-neh₂- could themselves serve as inchoatives (presumably in the middle voice), which reduces the weight of the analogy with *-eh₁-sk-. Third, the few attested Armenian *na*-presents are Proto-Armenian innovations and require explanation of where the once productive *-n(e)h₂- suffix could have disappeared. The development of *-neh₂- to *-nh₂-i̯e- seams to be a fairly suitable solution especially in view of a similar change of *-eh₁- to *-h₁-i̯e-. The eventive semantics of inchoatives formed with the nasal suffix should have kept them apart from statives in *-eh₁- which in part had renovated the Proto-Indo-European „perfect".

Moreover, the two types, the denominative and deverbal, could co-exist or merge together, cf. the twofold origin of Gr. -αίνω, Toch. B *lareññä/e-* 'love' along with the primary *-ññ-* verbs, or Armenian denominatives of the type pres. X-*an-em*, aor. X-*an-ecʻi* (e.g. *cʻakanel* 'be in need of smth.' from *cʻakn* 'necessity, need') along with the renovated heirs of the *n*-infix presents of the type pres. X-*anem*, aor. X-*i* (e.g. *ergicanel* 'tear').

Judging from the collection of verbs in *-anna/i-* listed in Kloekhorst 2008: 147, the verbs of this class were either active transitive or intransitive verbs of motion (cf. *iyanna^i* 'march', *laḫḫiyanna^i* 'go on an expedition'). The variety of connotations associated with the suffix is referred to as „imperfective" [Hoffner & Melchert 2008: 226]. This lexico-syntactic set strongly reminds the Armenian *ane*-class and, to a lesser extend, the *ana*-class. The Hittite formation, if from *-$ṇH$-i-, should not be compared to the Armenian ones directly, but may rather shed light on the features of the underlying *-neH-/*-nH-/*-$ṇH$- suffix.

2.3. Productivity of *-$ịé/ó$-. The Proto-Armenian *-eh_1-sk-$ịe/o$- (Armenian *čʻi*-presents) formation is another evidence of the productivity of the *-$ịé/ó$- suffix at an early stage of Proto-Armenian. We find the -*čʻi*- suffix as a variant of the -*nu*- suffix in about twenty verbs (predominantly denoting motions or emotions) with the *i*-aorist (from *-eh_1-), specific for this verbal class.

The details of the spread of the archaic present/imperfect *-ske/o- stem to stative stems is obscure, still the semantic link between the *čʻi*- and *a*-present classes legitimizes the following reconstruction:

1) Arm. pres.-*čʻi*-: aor. -*i* PArm. pres. *-eh_1-sk-$ịe$- : aor. *-eh_1-
2) Arm. pres. -*a*-: aor.-*acʻ* PArm. pres. *-h_1-$ịe$- : aor. *-h_1-sk-[8]

The imperfective *-ske/o- suffix complementary to the stative semantics of *-eh_1- could had been used to make eventive (in this case inchoative) verbs out of stative ones probably in late Indo-European already (cf. Arm. *hangčʻim*, Lat. *conquiēscō* 'become quite'; Olsen 1999: 480), while the expansion of the thematizing *-$ịe/o$- suffix to both the inherited stative and inchoative types should be better explained as Proto-Armenian innovations.

3. Conclusion

3.1. From diachronic point of view, the following separate strata of the *ana*-verbs can be distinguished:

1) *-C-$ṇ$-h_2-: *stanal* 'receive' < *-st-$ṇ$-h_2- (if nothing else). This type is very poorly attested. Presumably, it could not have been the source of the productive -*ana*- suffix.

2) *-$n(e)h_2$-: *banal* 'open', *luanal* 'wash', *slanal* 'fly', *tʻanal* 'make wet' together with *bar̄nal* 'lift', etc. These verbs point to a moderate productivity of the *-$nā$-/*-na- suffix in Proto-Armenian, although no inherited Proto-Indo-European stems are available to determine the source of analogy.

3) *-$ṇH$-($ị$)$é/ó$-: primary verbs, which mainly denoted motions, mental and emotional conditions, and which were the source of the denominative inchoative -*ana*- suffix. There is

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[8]   Greek preserved denominative α-stems (from athematic stems in *-eh_2-) with ᾱσ-aorists (from *-eh_2-s-). One may ask if the Armenian *a*-class (*acʻ*-aorist) can be directly compared with the Greek one. This comparison is based on the hypothetical development *-Hs- > -*cʻ*, cf. *-Ks- > -*cʻ* in *vecʻ* 'six'). For the spread of sigmatic aorist to verbs with nasal presents in Greek (like δάμνημι : ἐδάμασα, κέλλω : ἔκελσα) see Sihler 1995: 501, 560. According to Kortlandt 2003: 81, -*eacʻ* in denominatives should go back to *-esa- or *-isa- and be compared to Gr. -ησα (cf. ἐφίλησα), of which -α- originated in the endings beginning with a nasal; the -*cʻ* is analogical from *-ske-. Later, Kortlandt suggested another origin of -*cʻ* deriving it from *-s- added to root final dental or palatal stop with further expansion of -*cʻ* elsewhere (2003: 108–109). Still, as the example of *eharcʻ* 'he asked' < *-e-prk̑-ske- shows, if correct, this should not had always been the case.

no certainty about the precise shape and function of this derivative of *-n(e)h$_2$-. It is likely that this type was inherited from the common source by Greek, Indo-Iranian, Tocharian, and Armenian.

4) Secondary formations following a productive denominative type.

3.2. One of the deep-layer problems involved in the matters discussed above is the intransitive usage of the secondary *-néH- suffix to denote verbs of motion, personal conditions, and inchoatives, particularly denominative. The fact that the *n*-infix presents had a function of deriving transitive/causative eventive verbs out of intransitive eventive ones has been recognized long ago. Still, as we see from the ample evidence for their intransitive usage of the nasal formations in many Indo-European branches, their principal function has to do with the imperfective (vs. perfective) and eventive (vs. stative) semantics rather than with the argument structure of a verb (the voice being regularly expressed by the endings).This explains why intransitive processual verbs of motions and emotions were frequently marked by the continuants of Proto-Indo-European *n*-infix presents.

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