

## Evidence for preverbs as ditropic clitics in dialectal Indo-European

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### I. Preliminaries: A sketch of a general typology of clitics

(cf. recently Anderson 2005, Spencer & Luís 2012)

1.

Simple Clitics

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Special Clitics

=prosodically weak variants of stressed words

=clitics exhibiting a special syntactic behaviour

German *Sehen Sie?!*

*Sehen=Se?!*

Special clitics: Wackernagel's clitics such as acc. Skt *mā, tvā*, Gk *με, σε*, gen.-dat. Skt *me, te*, Gk *μοι, σοι*

2. Proclitics ~ Enclitics

Clitics preceding their prosodic host = Proclitics

Cf. Russian *na=zémľju, na=nébo ...* 'on the ground, into the sky'

Clitics following their prosodic host = Enclitics

Cf. Latin *Senatus populus=que Romanus*

3. Syntactic behaviour of Special Clitics: Prosodic Host = Syntactic Host

RV 3.51.2 *gíro=ma índram úpa yanti vísvátas*  
'My songs go to Indra from all sides.'

Prosodic Host ≠ Syntactic Host

RV 3.55.3 *ví=me purutrā patayanti kāmās*  
'My desires fly apart in many directions.'

4. Ditropic Clitics (cf. Cysouw 2005, Himmelmann 2014): Enclitics selecting as their Prosodic Host whatever stressed word happens to precede their Syntactic Host.

Cf. Kwakwala, British Columbia (Anderson 2005)

*k<sup>w</sup>ix<sup>ʔ</sup>id=ida*      *bəg<sup>w</sup>anə<sup>m</sup>=x-a*      *q'asa=s-is*      *t'əlwag<sup>w</sup>ayu*  
clubbed-DEF      man-OBJ-DEF      otter-INST-3SG.POSS      club

'The man clubbed the sea-otter with his club.'

## II. PIE Local Particles and their evolution after the SPLIT

PIE \**pró*            Skt *prá*, Gk *πρό*, Lat *prō* etc.

PIE \**péri*            Skt *pári*, Gk *πέρι*, Lat *per*, Lith *per̃*

After the SPLIT:

(a) adverbs and conjunctions (mostly stressed)

PIE \*(*h*<sub>1</sub>)*éti*        Skt. *áti*, Gr *ἔτι*, Lat *et*, Goth *ip*

(b) adpositions (stressed or clitics on case forms of nouns)

PIE \**péri*            Gk *περί*, Lat *per*, Lith *per̃*, MW *er*

(c) preverbs (proclitics on verbs)

PIE \**pró*            Gk *προ-*, Lat *prō-*, Lith *pra-*, OCS *pro-*, OIr *ro-*

Hypothesis: On their way from stressed words to unstressed proclitics hosted by verbs and nouns, the IE Local Particles could pass the intermediate stage of ditropic clitics. This theoretically unexpected development can be demonstrated for three branches of post-split IE, East Baltic (more precisely, Lithuanian), Germanic, and Armenian.

## III. East Baltic

As in many Indo-European languages, the preverbs of East Baltic developed out of free standing stressed adverbs capable of forming a semantic unit with nouns and verbs. In East Baltic, such adverbs are preserved in three different functions:

(a) as first members of nominal compounds

(b) as stressed prepositions used with case forms of nouns

(c) as unstressed preverbs on verbs.

It is well known that in East Baltic these different functions may require a different phonetic realisation of the inherited Local Particle. Cf. in Lithuanian:

(a) *príe-* (*príe-duris* ‘treshold’)        *núo-* (*núo-kalnė* ‘hill-slope’)

(b) *priẽ* (*priẽ kėlio*, *jũros* ‘road, sea’)        *nuõ* (*nuõ árklío*, *krañto* ‘horse, edge’)

(c) *pri-* (*pri-deñgti*, *-lìpti* ‘burn, *nu-* (*nu-mèsti*, *nu-krìsti* ‘throw, drop’ stick’)

The original pronunciation is most probably preserved in (a), i.e. in nominal compounds, where the former Local Particles were

1. stressed since PIE times and kept its stress until contemporary Lithuanian,
2. not at the end of a word and thus not affected by recent sound changes prone to this position.

As for (b) and (c), the pronunciation of the inherited Local Particles seems to have changed in two different ways. The most promising explanation of this variation is provided by the recent interpretation of Leskien’s Law according to which

1. monophthongs with acute intonations were always shortened at the end of the word,
2. diphthongs with acute intonations were shortened into monophthongs at the end of polysyllabic words but remained diphthongs in monosyllabic words, only changing their intonation from acute to circumflex (cf. most recently Petit 2002, differently Yamazaki 2014).

The evidence is provided by two independent parts of Lithuanian grammar:

1. by inflection of nouns, pronouns, and adjectives:

	protected by clitic	posyllables	monosyllables
n.sg.f.	<i>geró-ji</i> ‘decent’	<i>gerà</i>	<i>tà</i> ‘that’
n.pl.m.	<i>geríe-jie</i>	<i>gerì</i>	<i>tiẽ</i>
inst.sg.m.	<i>gerúo-ju</i>	<i>gerù</i>	<i>tuõ</i>

2. by inflection of verbs in the future tense:

	inf.	3fut.	inf.	3fut.
<i>gýti</i> ‘recover’	<i>gìs</i>	<i>dúoti</i> ‘give’	<i>duõs</i>	
<i>búti</i> ‘be’	<i>bùs</i>	~ <i>rieti</i> ‘pile up’	<i>riẽs</i>	
<i>jóti</i> ‘ride’	dial. <i>jàs</i>			
<i>dėti</i> ‘put’	dial. <i>dès</i>			

Leskien's Law immediately explains the intonation of the prepositions Lith *priẽ* and *nuõ*. Due to their monosyllabicity, the prepositions had to undergo the *métatonie douce*, changing their intonation from acute, as it is preserved in composition (*prie-*, *núo-*), to circumflex (i.e. to *priẽ*, *nuõ*).

The only possible explanation for the shortening of former diphthongs in (c), i.e. in the preverbs *pri-* and *nu-*, is by assuming that prior to their univertation with the verbs, these preverbs constituted the last syllable of polysyllabic words, i.e. were prosodically hosted by whatever words happened to precede their syntactic host, the verb, in the clause.

Prior to Leskien	After Leskien	today
WORD= <i>prie</i> VERB	→ WORD= <i>pri</i> VERB	→ WORD <i>pri</i> =VERB
WORD= <i>núo</i> VERB	→ WORD= <i>nu</i> VERB	→ WORD <i>nu</i> =VERB

Since Leskien's Law is a recent development, we have to assume a 'prosodic jump' (Ditropic Enclitic → Proclitic) for Aukštaitian Lithuanian perhaps just two or three generations prior to the beginning of the written records (in the early 16th c.).

#### IV. Germanic (cf. already Schmidt 1962: 269–275)

PIE *\*kom* 'with': Lat *cum*, *com-* 'with, by', Gaul *com-* (in compounds), OIr *co*<sup>n</sup>, *com-* 'with'

Cf. PGerm *\*ham-* in nominal compounds:

- West Franconian *ham-edius* 'compurgator' (with OHG *eid*, OE *āð* 'oath' as second member), cf. OHG *gi-eido*,
- West Franconian *ha(m)-mallus* 'socius' (with Goth *maþl*, OS *mahal*, ON *mál* 'court, assembly' as second member), cf. OHG *gi-mahalo*.

In all other Gmc languages *\*ga-* in nouns and verbs (Goth *ga-*, OHG *ga-*, later *gi-*, OE *ge-*), cf. from the functional perspective

- Goth *ga-mains* = Lat *com-mūnis*
- Goth *ga-juka* = Lat *con-iux*
- Goth *ga-arbja* = OIr *com-arbe* etc.

How to explain the difference between PGmc *\*ham-* in nominal compounds and PGmc *\*ga-* (probably elsewhere)? Verner's Law and 'prosodic jump' like the one just described for Lithuanian!

Early Proto-Gmc	Verner's Law + 'Auslautgesetze'	Late Proto-Gmc
WORD= <i>*han</i> VERB	→ WORD= <i>*ga</i> VERB	→ WORD <i>*ga</i> =VERB

Concerning the assumption of Early Proto-Gmc \*-an > Goth, ON, OHG, OE, ON -Ø through the intermediate stage \*-a, cf. Runic Norse acc.sg. nt. **horna**, masc. **staina**.

## V. Armenian

1.1 The different treatments of vowels in prepositions in Armenian may be explained by the assumption that Armenian had both stressed and unstressed prepositions, cf.

stressed	unstressed
<i>i / y</i> < * <i>en</i> (unstressed: ** <i>ən</i> )	<i>əst</i> < * <i>post(i)</i> (stressed: ** <i>ost</i> ) <sup>1</sup>
<i>aṛ</i> (unstressed: * <i>aṛ</i> )	<i>ənd</i> < * <i>anti</i> (Gk. ἀντί, Lat. <i>ante</i> ), * <i>and<sup>h</sup>-</i> (Ved. <i>adhás</i> ‘under’ < * <i>nd<sup>h</sup>es</i> )
	<i>z</i> < * <i>ǵ<sup>h</sup>oH</i> (OCS <i>za</i> ; <sup>2</sup> unlikely: * <i>mb<sup>h</sup>i</i> ~ Ved. <i>abhi</i> )
	<i>c<sup>c</sup></i> < * <i>sk<sup>(u)</sup>oh<sub>1</sub></i> , * <i>poti</i> ? <sup>3</sup>

1.2 *i / \_C, y / \_V*: Was there an unstressed variant *ən*? This is assumed for a number of forms (cf. e.g. Olsen 2002:310), which may, however, contain *ənd*-:

- *ənjeṛem* ‘ἐγχειρίζω’ < \**ənd-j<sup>o</sup>* (thus NBHL), cf. the PP Gen 16.9 *hnazand ler ənd jeṛamb nora* ‘Submit to her / under her hand.’
- *əmbṛnem* ‘take, seize’ (: *bowṛn* ‘fist’) < \**ənd-b<sup>o</sup>*
- *əntani* ‘housemate, relative’ need not contain \**en*- (pace Olsen 1999:447 Fn. 514), cf. Gk. σύν-οικος ‘housemate’ ~ Arm. \**ənd-tani*, cf. also *ənker* ‘companion’ < \**ənd-ker* ‘together-eat’.
- *ənkenowm* ‘to throw’ usually compared with Lat. *ingero*, ON *kasta* ‘to throw’ hence \**en-ges*-,<sup>4</sup> but \**ənd-<sup>o</sup>* is equally possible. Alternative: Godel (1965:26) \**seng<sup>u</sup>-* ‘fall’ : causative \**song<sup>u</sup>-eje/o-* in Gmc. \**sank<sup>w</sup>ija-* (Germ. *senken*).
- best candidate for \**en*-: *əmpem* ‘to drink’ if from \**en-pibe/o-* (Praust 1998), cf. Gk. ἐμ-πίνω, Lat. *imbibere*, -ō.<sup>5</sup> Also possible \**ənd-pibe/o-* > \**ənd-bibe/o-* (assimilation as in Latin and/or assimilation \**-dp-* > *-db-*) > \**əmp(i)pe/o-* (sound shift) > *əmpe*-?

1.3 *z*-: Manaster Ramer s.a.<sup>6</sup>: \**h<sub>2</sub>mb<sup>h</sup>i-* > Arm. *z-*. He points out some apparent correspondences between Ved. *abhi-*, Gk. ἀμφι- and Arm. such as

- *z-gest* ‘dress’ like Ved. *abhi vāsaya-* ‘to clothe’, Gk. ἀμφι-έννυμι ‘to put on’

1 Dunkel (2014:II.61 with fn. 63): \**pos-ti* or \**pos-d<sup>h</sup>i*.

2 Dunkel (2014:II.277ff.).

3 Olsen (2002:311).

4 Frisk (1944:21ff.), Klingenschmitt (1982:249), Olsen (2002:310).

5 Similar assumption already in Meillet (1896), who started from \**ənd-pibe/o-* and compared *əmberanel* ‘to close the mouth’ (: *beran* ‘mouth’) for the development of *ənd-* > *əm-*. The pre-form of Arm. *əmpem* may have been \**ənd-hipe/o-*, however, hence not the context of *-nd / \_labial* as in *əmberanel*, cf. Praust (1998:189ff.).

6 Cf. also Olsen (1999:72, 107-8, 624 fn. 853), Dunkel (2014:II.115 with fn. 12 and 13 (sceptical)).

- *zist* ‘thigh, flank, hip’: Lat. *obsīdō* ‘to sit down close to s.th.’(!) with *ob-*, which, however, is from *\*h<sub>1</sub>e/op(i)*, Gk. ἐπί, ὀπι- (Myc. *o-pi*), Arm. *ew*, Skt. *api* etc.

Olsen (1999:72 + fn. 150): PIE *\*b<sup>h</sup>i-sd-o-* ‘das, was dabei/daran sitzt’ or ‘das, worauf man sitzt’, cf. *\*ni-sd-o-* ‘nest’. This would imply a contamination of *\*b<sup>h</sup>i* (> Arm. *z-*) and *\*b<sup>h</sup>i* to explain the /i/ of *zist* (cf. Olsen *loc. cit.*).

Alternatives: a) *\*g<sup>h</sup>ē* as a variant of *\*g<sup>h</sup>ō*, i.e. *\*jist* with readjustment to *zist* after *z-*. Or late compound when only *z-* was available. b) Backformation from a verb *\*z-stim* ‘to sit (down)’ parallel to *nstim* : *nist*, i.e. *\*zstim* : *zist*. *\*Zstim* < *\*g<sup>h</sup>ō/ē-(si)-sd-e-*.<sup>7</sup> Second element could be from *\*h<sub>1</sub>ēs-* (“*\*h<sub>1</sub>eh<sub>1</sub>s-*”) ‘to sit’ (: Gk. ἦμαι, Ved. *āste*), i.e. *\*g<sup>h</sup>ē-h<sub>1</sub>ēs-t/do-* > *\*jist*.

Noteworthy: In both cases, *zist* and *zgest*, context /z...s/, cf. also *zowsp* ‘tight, close’ (: *zspem* ‘convolvo, contego, comprimo’). According to Winter (1999: 314=2005:II.616) there are no cases of Arm. stems with the structure CVRC with a sequence /j...s/ [d<sup>z</sup>...s], the only instances of /z...s/ are precisely *zist* and *zowsp*.

Consonantal harmony in Armenian (as per Winter), hence assimilation *\*jist* > *zist* not unlikely, cf. *čanač‘em* < *\*canač‘em* (vs aor. *čaneay*) ‘(get to) know’, *žoyž* in *žoyž ownel* ‘be patient’ < *\*z-oyž* from *oyž* ‘power’, cf. also Kölligan (2012) on Arm. *jez* ‘you.2P.ACC.PL’ < *\*jeji* < *\*jeji*.

- *zgawn* (-i, -ic) ‘wise, learned, skilful’ (Ezriq): not in Martirosyan (2010), Olsen (2002:311): *\*h<sub>2</sub>mb<sup>h</sup>i-g<sup>h</sup>əb<sup>h</sup>no-* like Germ. *be-gabt*. But corresponding form in Gmc. is OHG *umbi* etc., hence *\*\*umgabt*. *Zgawn* also means ‘πράος, ἥμερος, mansuetus’. PIE *\*uēt-* ‘be accustomed, familiar’ (Ved. *api vat-*, Av. *a(i)pi uuat-*, *fra-uuat-*) could fit both meanings, *\*uətno-* > *\*gawn*? But development of *\*-tn-* unknown, like *\*tr* > *-wr-* (*hawr* < *\*patros*)? Or from *\*uēh<sub>2</sub>-* ‘to turn’ (Hitt. *wēhzi*, *wahhuweni*, LIV<sup>2</sup> 663), Arm. *gam* ‘to come’, *z-gam* ‘to feel, recognize’,<sup>8</sup> *\*uēh<sub>2</sub>-nu/nō-* > *\*ga<sup>u</sup>nu* > *°gawn* (*u*-epenthesis as in *\*āmōr* ‘day’ > *a<sup>u</sup>mur* > *awr*), semantics like Lat. *versutus* ‘shrewd, clever, skilful’ from *verto* ‘turn’ (cf. NE *versatile*), Germ. *gewandt* ‘clever, adroit’ : *wenden* ‘to turn’. Suffix *-nu-* productive in Vedic, cf. *dhenú-* ‘giving milk; cow’ : *dháyati* ‘sucks’, *\*d<sup>h</sup>eh<sub>1</sub>i-*, *ghṛdhnú-* ‘hurrying’ √*ghṛdh*, *°trasnu-* ‘quivering’ √*tṛs*, etc., cf. Debrunner 1954:741ff.).
- Unclear case: *zowt* ‘pure, unmixed (metal)’:<sup>9</sup>
  - has been related to *\*g<sup>h</sup>eṷ-* ‘to pour’ (cf. Olsen 1999:962, Martirosyan 2010:275). Iranian loanword / contamination with Iranian form (cf. Av. *ā-zuiti-* ‘sacrificial fat, clarified butter’, Ved. *ā-huti-* ‘offering’)?

7 Cf. Meillet *p.c. apud HAB* 2:96b.

8 Cf. Olsen (1999:962): “*zgōn* ‘wise’ internally related to *zgam* ‘feel, know’”, cf. also *zgōnowt‘iwn* ‘wisdom’ (Bible 12×).

9 3 Kings 6.21 *nuḷḷnḷ qunnḷ* ‘with pure gold’, 7.43 *ḥ qnḷn nuḷḷnḷ* ‘of pure gold’, 7.50 *nuḷḷḥu qnḷn* ‘id.’, etc.

- from *\*peuH-* ‘to cleanse, purify’? No *d*-stem attested anywhere (*\*puH-d-* > *\*howt-* → *z-howt* > *zowt*, cf. *hatanem* ‘κόπτω, ἐκ°, ἄπο°, to strike, smite, cut’ : *zatanem* ‘id.’). *\*g<sup>h</sup>eud-* (Lat. *fundo*, Goth. *giutan*) × *\*puH-* → *\*puHd-*?
- related to *zatem* ‘to separate, differentiate’<sup>10</sup> < *\*z-hatem* : *z-(h)owt* ‘separated, cleaned’? Vṛddhi *\*h<sub>2</sub>ed-* : *\*h<sub>2</sub>ōd-o-* > *\*(h)owt* → *z-owt*? Cf. also Germ. *Schlacke*, *Hammerschlag*<sup>11</sup> ‘scum’ ~ *schlagen*. Or *\*h<sub>2</sub>od-u-* > *\*(h)o<sup>u</sup>tu* > *\*(h)owt* (exx. for *u*-epenthesis after /o/? Development later than that of inherited *\*ou* > *oy*). [Formally identical to Iran. *\*ādu-*, Av. *āδū.frādanqm*. (Yt. 5.1) ‘making grain prosper’, but semantically diverging.]

**1.4** *c* ‘-: Olsen (1993, 1999:811, 2002:311): *\*poti*, comparing syntax of *asem + c* ‘with Av. *fras-* + *paiti* ‘to ask someone’ (or rather even more directly *harc’anem + c*) and *tam + c* ‘with Boeot. “ποτιδεδόμενος”. Accepted by Dunkel (2014:II.656 with fn. 9). Further evidence for development of *\*ti*? Why vowel of first syllable lost?

Alternative: PIE *\*sek<sup>u</sup>-* ‘to follow’, proterokinetic noun *\*séku-/sk<sup>u</sup>-* ‘following’, instr. sg. *\*sk<sup>u</sup>-éh<sub>1</sub>* and *\*sk<sup>u</sup>-óh<sub>1</sub>* ‘following, subsequent to *x*’ → ‘towards *x*’. Maybe also in Ved. *ácchā* as combination of pronominal stem *\*h<sub>1</sub>e-* ‘this’ + *\*sk<sup>u</sup>-éh<sub>1</sub>* ‘following this, subsequent to this’ > ‘towards, hither (*\*h<sub>1</sub>e-*)’ (or *\*h<sub>1</sub>e-h<sub>1</sub> sk<sup>u</sup>-éh<sub>1</sub>* with loss of laryngeal in first element).<sup>12</sup>

Original syntax ‘instrumental of way’ (cf. Hettrich 2002):

RV 1.183.6 *éthá yātam pathíbhīr devayānair*  
 „Kommt hierher auf gottbegangenen Wegen!“

**2** Distribution of stressed / unstressed variants originally dependent on main (stressed) vs subordinate clause (unstressed), if preverbs as in Sanskrit?

**3** Unstressed forms that may have been both pro- and enclitic: *ast*, *and*, *c<sup>c</sup>*: *\*anti* > *\*ánti* > *\*and* > *and*, *\*posti* > *\*pósti* > *\*ost* > *ast*, *\*sk<sup>(u)</sup>oH* > *\*c<sup>c</sup>u* > *c<sup>c</sup>-*.

**4** But *pre-tonic* vowels except /i/ and /u/ are retained, cf.

- /e/: *berem* ‘I bring’ [ber'em]
- /a/: *acem* ‘I lead’ [a'tsem], *banam* ‘I open’ [ba'nam]
- /o/: *orotay* ‘it thunders’ [(v)oro'ta(y)] < *\*proda<sub>i</sub>e/o-*, *kogi* ‘butter’ [ko'gi] < *\*g<sup>u</sup>ou<sub>i</sub>jo-* etc.

<sup>10</sup> 3 Mos 10.10 *zate<sub>i</sub> i mē<sub>i</sub> srbo<sub>c</sub> ew plcoc* ‘You are to distinguish between the holy and the common’.

<sup>11</sup> Duden: „beim Schmieden von glühendem Stahl entstehender oxidischer Überzug, der in Form kleiner Schuppen abspringt.“

<sup>12</sup> A preform *\*skō/oh<sub>1</sub>* for Arm. *c* ‘and Ved. *ácchā* is assumed by Meillet, *MSL* 7 (1890), 165 and Klingenschmitt (1982:83).

- /i/: *nist* ‘seat’ : *nstim* ‘I sit’ [nəs'tim]
- /u/: *dowstr* ‘daughter’ : gen. *dster* [dəs'ter]

**5** Post-tonic vowels are lost in final syllable, e.g. /o/ in case endings of stems in -o-, \*-o-s/m > -ø, gen. \*-ósjo > \*-oy, etc., /a/ in -ā-stems, cf. *am* ‘Jahr’ < \*sḡm-ā, *mec* ‘big’ < \*[metsa] < \*meǵh<sub>2</sub>

**6** Hence: for proclitic \*post(i) *x* expected Arm. form is \*ost(i), for proclitic \*anti *x* expect \*and, *c*<sup>c</sup>- is ambiguous because of vowel /u/.

**7** Only position where *ənd* and *əst* may have developed is *enclisis*: \**x*-post > \**x*-st > (-)əst, \**x*-ant > \**x*-nd → (-)ənd. I.e. loss of final vowel (if ever present) in \*posti, \*anti as free forms > \*post, \*ant, after which they became enclitic.

**8** Further argument in the case of *z*-: /z/ can only arise in postvocalic word-internal position, in word-initial position PIE \*ǵ<sup>h</sup> is reflected as /d<sup>z</sup>/ <j>, cf. Arm. *jiwn* ‘snow’ < \*ǵ<sup>h</sup>i(i)ōm, Gk. χιών, Lat. *hiems*, Ved. *heman-*, Av. *ziiam-*, Lith. *žiemà*, etc. vs Arm. *edēz* ‘he piled up’ < \*ed<sup>h</sup>eǵ<sup>h</sup>et, prs. *dizanem*, Lat. *pingō*, Ved. *dehmi*.

**9** Traditional accounts of *z*-:

**9.1** Arm. *z*- related to OCS *za* ‘behinder, after’, Brugmann reconstructs PIE \*ǵ<sup>h</sup>ō / ǵ<sup>h</sup>oh<sub>1</sub> (instr.).

**9.2** Brugmann (1916:II.2.847): since \**j*- is the expected form, *z*- is some kind of sandhi-variant: “*z*- wäre eine verallgemeinerte sätzphonetische Variante von \**j*- (vgl. Osthoff BB. 24, 185 ff.)” Unsatisfactory, as no contexts / distribution can be shown.

**9.3** Meillet (1936:37): “La préposition *z*- qui répond pour le sens à v. sl. *za* (et aussi à got. *ga*-) représente le traitement de \**j*- devant certaines consonnes.” But he does not say before which consonants. Meillet assumes /d<sup>z</sup>/ > /z/ /\_n in *ozni* ‘hedgehog’ < \*ojni an, Lith. *ežỹs*, Gk. ἐχίνοϛ. This is the word-internal development between vowels: VjV > VzV, i.e. \*ojini- > \*ozini > *ozni* (cf. **8**).

**9.4** Klingenschmitt (1982:138 fn. 3) assumes a more general development of a number of forms in “Schwachton” – what does this mean? Unstressed position? He assumes this to apply also to 2P NOM SG *dow* ‘you’, but in which circumstance would *dow* be unstressed in a pro-drop language like Armenian, where it is expected to occur only when stressed?

“Im übrigen wird auch der für *es* ‘ich’ anzunehmende Wandel von *c* [ts] zu *s* eher auf einer bei schwachtonigem Gebrauch eingetretenen Lautentwicklung als auf der Verallgemeinerung einer Sandhiform beruhen; vgl. *dow* ‘du’ statt \**thu* < \**tu*, *ayd* ‘dieser (deiktisch)’ statt \**ajth* < \**ah<sub>1</sub>i+\*to-* ‘da der’, *da* ‘dieser (anaphorisch)’ statt \**tha* < \**to-+\*ah<sub>1</sub>i* ‘der da’, *o*, *ov* ‘wer?’ < \**ho* (vgl. *him* ‘war-



um?') statt *\*kho* < *\*k<sup>w</sup>os*, *zu-*, *z-* (vgl. *zow-art* 'besonnen, nüchtern' : *z-art* 'now-erwachen'; zum Nebeneinander von *zu-* und *z-* s. § 16.11, A. 8) statt *\*ju-* [*d<sup>f</sup>u-*], *j* [*d<sup>f</sup>-*] < *\*ǵ<sup>h</sup>oh* (: slaw. *za*) (anders über *es* und *z-* Meillet, *Esquisse*, S. 37)."

Most of these forms allow for a different explanation (v. *infra*).

**9.5** Latest detailed discussion in Dunkel (2014:II.277f. fn. 1) s.v. *\*ǵ<sup>h</sup>oh<sub>1</sub>-* 'behind', but with two "?" and p. 278: "arm. *z-* passt weder-noch" (*i.e.* neither formally nor semantically).

**9.6** However, already Brugmann pointed out some overlapping usages of Arm. *z-* and Slav. *za* (exx. from Brugmann and Jensen 1959:129f.):

- OCS *jěti za rǫkǫ*<sub>[AKK]</sub> 'take by the hand' ~ Arm. Lk 8.54 *kalaw z-jeṛanē*<sub>[ABL]</sub> *nora* 'He took her hand./He took her by the hand.'
- OCS *za nje* 'why' ~ Arm. *z-mē* 'id.'
- OCS *za stracha* 'out of fear' ~ Arm. *znahatakowt<sup>e</sup>eanc<sup>e</sup>n hawrn* 'because of the heroic deeds of his father' (MX 2.47)

**9.7** Evidence for *\*-ō* in *\*ǵ<sup>h</sup>ō*? Arm. *art* 'own' 'awake (adj.)' : *zow-art* 'sober, considerate' beside *z-art* 'nowm' 'to wake up'. Klingenschmitt (1982:250 fn. 8):

"Danach hätte der Ausgang von Präfixen in der Komposition mit finiten Verbalformen die lautgesetzliche Wortauslautsbehandlung, in der nominalen Komposition die lautgesetzliche Wortinlautsbehandlung erfahren."

But pretonic /u/ is reduced (*cf.* 4), *i.e.* *zow-art* behaves as if it had *two* accents: /zú-árt<sup>h</sup>/. As preverbal element it behaves as if it were in word-final position (as Klingenschmitt points out), *i.e.* phonologically part of the preceding word: *\*V ǵ<sup>h</sup>ō* > *\*V z(u)-*. Hence, verbal prefixes were still separable as opposed to nominal compounds where they already formed part of the following word, although apparently retaining their own accent; *cf.* Germ. opposition between *Urlaub* : *er-láuben*.

**9.8** Sandhi explanation offered by Brugmann unsatisfactory and arbitrary.

**9.9** Alternative: *a.* lack of vowel in *z-* presupposes that the form is unstressed (as it contains no element capable of bearing stress). Hence, either pro- or enclitic. *b.* Proclitic form is ruled out by anlaut /z/, not *\*/d<sup>z</sup>/*. *c.* Remaining explanation for *z* if from *\*ǵ<sup>h</sup>ō*: enclitic form, no matter what the preceding host is – only condition being that it can bear stress: *\*...V'-ǵ<sup>h</sup>ō*.

**10** Clitics behaving this way, *i.e.* enclitic prepositions, described by Klavans (1985), Embick & Noyer (1999): "ditropic" clitics, defined by Cysouw (2005:18) primarily as *a.* "the host and the clitic must not form a semantic unit", *b.* "the host of the clitic should defy all attempts at any unitary structural characterisation" (v. *supra*).

**11** *\*ǵ<sup>h</sup>ō* probably also such an "enclitic preposition", *e.g.* postverbally (3S.IND.PRS.ACT) *\*-e-ti ǵ<sup>h</sup>ō* > *\*-eyi j(u)* > *-ē z-* or postnominally after loss of final consonants: *\*-o-s/m ǵ<sup>h</sup>ō* > *\*-o ǵ<sup>h</sup>ō* > *\*-o ju* > *\*-o z(u)*, *\*-eh<sub>2</sub> ǵ<sup>h</sup>ō* > *\*-a j(u)* > *z- etc.*

**12** Presumed developments in "Schwachton":

**12.1** Arm. DEM *da* < *\*to-* + *ay-*, *cf.* inverse order in *ay-d*. One of the contexts for development of *\*t* > *d-* is /nt/: Lat. *antae* 'door, portal' : Arm. *dr-and*; Lat. *ante*, Gk.

ἀντί : Arm. *and*. Hence: postposed enclitic article (*ayr-d* ‘this man’) \**to-* following ACC / NTR \**-om tom/tod* > \**-on-don/do(t)*, \**podm* > \**otan* + *tom* > \**otan-do(n)*, etc. → \**do-* abstracted from this position? Accent must have been fixed already on penultimate syllable: \**-om+tom*.

## 12.2 Development of 2P SG pronoun:

12.2.1 /rt/ > /rd/ in Arm. *ard* ~ Gk. ἀρτί ‘just now’, Arm. *z-ard* ‘jewelry, adornment’ ~ Gk. ἀρτύς· σύνταξις (Hesych.). Contexts:

a) secondary ending *-r* (aor., impf., impv.): *berer/-ir* \**tū* > *-r dow*. Open questions: origin of *-r* unclear, if \**-rV*, no immediate contact, only after loss of final vowels.

b) collocation of *dow* after *ayr*, *kin*, *tēr* ‘man, woman, lord’, i.e. words ending in /r, n/, not in the corresponding Greek text of the Bible:

<i>ayr dow</i> = ἄνθρωπε	<i>kin dow</i> = (ᾠ Mt. 15.28) γύναι	<i>Tēr dow</i> = κύριε
Lk 5.20, 12.14, 22.58, 22.60	Mt 15.28, Lk 13.12, 22.57, Jh 2.4, 4.21, 19.26, 20.13, 20.15	Jh 4.11, 13.6, 21.17

Vocative with one accent only: \**h<sub>2</sub>nēr-tū* > *ayr dow*, \**g<sup>h</sup>eneh<sub>2</sub>-tū* > \**kina tū* (maybe with Kuiper’s law, cf. Gk. νόμφᾶ, OCS *ženo*) > (loss of final vowels) *kin-dow*. *Tēr dow* variant of *ayr dow*, since *Tēr* < \**ti-ayr*.

Ms. E (ed. Künzle 1984) has accent mark regularly on *Tēr dow* and never accent mark on *ayr dow* and *kin dow*, but nearly always on the word following *dow*. This might speak for only one accent on the two vocative forms. Note also once Mt 15.28 *ón kin dow* ‘o woman’, and with the opposite order Acts 4.24 *dów tēr astowac*. Outside the Bible: *ayr ηνι* Buz 4.13, Agath §741.

c) Not demonstrable: collocation of \**h<sub>1</sub>eg<sup>h</sup>om + tū* ‘I, you’ > \**ejon-du*?

12.2.2 Development like Bartholomae’s law in the imperative, e.g. \**dō<sup>h</sup>-d<sup>h</sup>i tū* ‘Give!’ > (loss of final vowels) \**dōd<sup>h</sup>-tū* > (Bartholomae’s law) \**dōdd<sup>h</sup>u* > (loss of aspiration, simplification of geminates) \**dōd(d)u* → \**dō dow* → (formal renewal of imperative) *tow-r (dow)*.

12.3 1P SG pronoun: various possibilities, e.g.

12.3.1 like Gk. ἔγωγε, Arm. \**h<sub>1</sub>egō gé* > \**ets tse* > \**etstse* > \**es-tse* → *es* with simplification of [tsts] > [sts] as in polysyllabic aorist subjunctives: 3s *siresc ē* ‘(s)he will love’ < \**sirec c ē*.

12.3.2 simple form \**eg* (: Lith. *eš*) + particle \**ke* ‘here’ (Lat. *ce-do*): \**eg ke* > (assimilation of voice) \**ekke* > (degemination) \**eke* > *es*. Cf. Lat. *ecce* ‘Look here!’ from \**h<sub>1</sub>e-k-ke* DEM-PRCL. Arm. *es* and Lat. *ekke* could be a phonological match, in Arm. ‘that one here’ > ‘I’?

**13 Summary:** Baltic, Germanic and Armenian evidence points to existence of “ditropic clitics” as an intermediate stage of the development of PIE local particles into preverbs and prepositions in these languages.

### References

- Anderson, Stephen R. 1984. “Kwakala Syntax and the Government-Binding Theory”, in Cook & Gerdts, 21-75.
- Anderson, Stephen R. 2005. *Aspects of the Theory of Clitics*. Oxford: OUP.
- Awetik‘ean, G., Siwrmēlean, K., & Awgerean, M. 1979. *Nor bargirk‘ haykazean lezui*. Erevan: Erevani Hamalsarani Hratarakch‘ut‘yun.
- Brugmann, Karl & Delbrück, Berthold. 1916. *Grundriß der vergleichenden Grammatik der indogermanischen Sprachen: Kurzgefaßte Darstellung der Geschichte des Altindischen, Altiranischen (Avestischen u. Altpersischen), Altarmenischen, Altgriechischen, Albanesischen, Lateinischen, Oskisch-Umbrischen, Altirischen, Gotischen, Althochdeutschen, Litauischen und Altkirchenslavischen*. Straßburg: Trübner.
- Cook, Eung-Do & Gerdts, Donna B. 1984. *The Syntax of native American languages*. Orlando: Academic Press.
- Cysouw, Michael. 2005. “Morphology in the Wrong Place”, *Selected Papers from the 11th Morphology Meeting, Vienna, February 2004 Morphology and Its Demarcations Current Issues in Linguistic Theory*, 17-37. doi:10.1075/cilt.264.02cys
- Debrunner, Albert. 1954. *Altindische Grammatik. Bd. 2.2: Die Nominalsuffixe*. Göttingen: Vandenhoeck & Ruprecht.
- Dunkel, George E. 2014. *Lexikon der indogermanischen Partikeln und Pronominalstämme. Bd. I: Einleitung, Terminologie, Lautgesetze, Adverbialendungen, Nominalsuffixe, Anhänge und Indices. Band II: Lexikon*. Heidelberg: Winter.
- Embick, David & Rolf Noyer. 1999. “Locality in Post-Syntactic Operations”, *MIT working papers in linguistics* 34, 264-317.
- Frisk, Hjalmar. 1944. *Etyma armeniaca*. Göteborg: Wettergren & Kerber.
- Godel, Robert. 1965. “Les origines de la conjugaison arménienne”, *REArm* N.S. 2, 21-41.
- Himmelman, Nikolaus P. 2014. “Asymmetries in the prosodic phrasing of function words: Another look at the suffixing preference”, *Language* 90, 927–960.
- Jensen, Hans. 1959. *Altarmenische Grammatik*. Heidelberg: Winter.
- Klavans, Judith L. 1985. “The Independence of Syntax and Phonology in Cliticization”, *Language* 61, 95-120. doi:10.2307/413422

- Klingenschmitt, Gert 1982. *Das altarmenische Verbum*. Wiesbaden: L. Reichert.
- Kölligan, Daniel. 2012. “Regular sound change and word-initial /y/ in Armenian”. In *Laws and rules in Indo-European*, eds. Philomen Probert & Andreas Willi, 134–146. Oxford: Clarendon Press.
- Manaster Ramer, Alexis. s.a. Ms. “Armenian -z- < \*-b<sup>h</sup>y-, -c<sup>c</sup> < \*-zk<sup>c</sup>”. [non vidi]
- Meillet, Antoine. 1936. *Esquisse d'une grammaire comparée de l'arménien classique*. Vienne: Imprimerie des Pères mékhitharistes.
- Olsen, Birgit Anette. 1999. *The noun in Biblical Armenian: Origin and word formation: With special emphasis on the Indo-European heritage*. Berlin: Mouton de Gruyter.
- Olsen, Birgit Anette. 2002. “A Note on Armenian Preverbs and Prepositions“. In *The Linguist's Linguist. A Collection of Papers in Honor of Alexis Manaster Ramer*, ed. Fabrice Cavoto, 309–316. München: LINCOM.
- Petit, Daniel. 2002. “Abrègement et métatonie dans le futur lituanien. Pour une reformulation de la loi de Leskien”, *Bulletin de la Société de Linguistique de Paris* 97, 245–282.
- Petit, Daniel. 2011. “Preverbation et prefixation en Baltique”, in: Petit, Daniel, Claire Le Feuvre & Henri Menantaud (eds.). *Langues baltiques, langues slaves*. Paris: CNRS. 235–271.
- Praust, Karl. 1998. “Arm. *əmpem* ‘trinken’”, *Die Sprache* 38, 184–200.
- Schmidt, Gernot. 1962. *Studien zum germanischen Adverb*. Berlin: Ernst-Reuter-Gesellschaft.
- Spencer, Andrew & Ana R. Luís. 2012. *Clitics. An introduction*. Cambridge: CUP.
- Winter, Werner. 1999. „Consonant Harmony in Armenian“. In *Language Change and Typological Variation: In Honor of Winfred P. Lehmann on the Occasion of His 83rd Birthday, I: Language Change and Phonology; II: Grammatical Universals and Typology*, ed. Edgar C. Polomé. Washington D.C.: Institute for the Study of Man, 313–319.
- Winter, Werner. 2005. *Kleine Schriften: in zwei Bänden; Festgabe aus Anlass des 80. Geburtstags = Selected writings*, ed. Olav Hackstein. Bremen: Hempen.
- Yamazaki, Yoko. 2014. “Monosyllabic circumflexion or shortening?”, *Indogermanische Forschungen* 119, 339–354.