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Towards a typology of derivational viewpoint aspect systems

1. Introduction: a rough typology of aspectual systems

We are looking only at **viewpoint aspect** (Smith 1991/1997), which describes the speaker’s construal of the situation “as a single whole” (perfective) or with an “essential attention to the internal structure of the situation” (imperfective) (Comrie 1976: 16), or, using Klein’s (1994) terminology, the relation between situation time and topic time. On more fine-grained semantic distinctions in the domain of aspect see e.g. Johanson (2000), Tournadre (2004) and Plungjan (2011: 377–406). We believe that for our purposes the simplified coarse-grained division is sufficient.

We distinguish between two (idealized) types of aspectual system (cf. Dahl 1985: 84–89):

➔ **Inflectional**: aspectual interpretation is determined by a particular grammatical (synthetic or analytic) form of the verb.

SPANISH (Indo-European > Romance; adapted from the internet)

- (1) a. *San Juan escribió* (AOR) *el Apocalipsis*.
‘Saint John wrote (pfv) the Apocalypse.’
b. *Mientras San Juan escribía* (IPF) *el Apocalipsis...*
‘When Saint John was writing (ipfv) the Apocalypse...’

KARACHAY-BALKAR (Altaic > Turkic, Ljutikova et al. 2006: 235, 237)

- (2) a. *kerim baxca-ni qaz-a-di*
Kerim orchard-ACC dig-IPFV-3SG
‘Kerim is working (ipfv) in the orchard.’
b. *men kel-gen-de kerim baxca-ni qaz-a e-di*
1SG come-PRF-TEMP Kerim orchard-ACC dig-IPFV AUX.PST-3SG
‘When I came, Kerim was working (ipfv) in the orchard.’
c. *alim kel-gen-de kerim qaxyt zas-ti*
Alim come-PRF-TEMP Kerim letter write-PST.3SG
‘When Alim came, Kerim wrote (pfv) || *was writing (ipfv) a letter.’

➔ **Derivational or verb-classifying**: aspectual interpretation is an inherent property of the verbal lexeme; in order to apply a different viewpoint to the same event, a new verb has to be derived by morphological means.

RUSSIAN (Indo-European > Slavic)

- (3) a. *Vasj-a rež-et luk.*
Vasja-NOM.SG slice(IPFV)-PRS.3SG onion(ACC.SG)
‘Vasja is slicing (ipfv) onions.’
b. *Kogda ja vošë-l, Vasj-a reza-l luk.*
when I.NOM come.in(PFV)-PST Vasja-NOM.SG slice(IPFV)-PST onion(ACC.SG)
‘When I came in, Vasja was slicing (ipfv) onions.’
c. *Vasja po-reza-l luk za dv-e minut-y.*
Vasja-NOM.SG PRV-slice(IPFV)-PST onion(ACC.SG) in two-FEM minute-ACC.PL
‘Vasja sliced (pfv) the onions in two minutes.’

⇒ Other: more complex and “mixed” aspectual systems, e.g. those where both underived verbal stems and verbal inflectional markers are neutral with respect to aspectual viewpoint, while certain derivational markers can “fix” the perfective resp. imperfective interpretation of the derived lexeme.

KHAKAS (Altaic > Turkic, A.Sh. field data)

- (4) a. *ajdo pičik-ti pas-xan*
 Ajdo paper-ACC write-PST
 ‘Ajdo wrote || was writing a letter.’
 b. *ajdo pičik-ti paz-ibis-xan*
 Ajdo paper-ACC write-PFV-PST
 ‘Ajdo wrote || *was writing a letter.’

NB In our study, we have only looked at derivational aspectual systems, leaving the “others” aside. As a preliminary observation, we can say that the latter seem to constitute a “transitional” type between the “pure” derivational and inflectional systems.

2. General features of the derivational aspectual systems

0) By definition, the perfective and the imperfective aspectual viewpoints characterize **verbal lexemes** and not just particular grammatical forms thereof. Application of different aspectual viewpoints to the same situation is possible by means of **perfectivizing** resp. **imperfectivizing** aspectual derivations.

1) Main characteristics of aspectual derivations:

(i) Being a separate lexeme, an aspectual derivate displays a full verbal paradigm, and not just some particular form or forms; i.e., aspectual derivations and aspectual viewpoints in derivational systems are in general independent of tense and other TAM features/values.

LITHUANIAN (Indo-European > Baltic, P.A. personal knowledge),

	Imperfective ‘write (ipfv)’	Perfective ‘write up (pfv)’
Present	<i>rašo</i>	<i>parašo</i>
Simple Past	<i>rašė</i>	<i>parašė</i>
Future	<i>rašys</i>	<i>parašys</i>
Habitual Past	<i>rašydavo</i>	<i>parašydavo</i>

(ii) Individual aspectual derivations do not form paradigms of obligatory morphosyntactic values, and the absence of a particular derivational marker does not necessarily signal a particular aspectual meaning.

RUSSIAN: *kupit’* (simplex Perfective) ‘buy’ vs. *ljubit’* (simplex Imperfective) ‘love’

(iii) Aspectual derivations are lexically constrained, sometimes in idiosyncratic ways (e.g. in Kartvelian languages and in Ossetic, perfectivizing prefixes do not perfectivize verbs of motion, see Tomelleri 2009, 2011).

(iv) Aspectual derivations are prone to lexicalization and semantic non-compositionality.

⇒ In typology, derivational or verb-classifying aspectual systems have been mostly discussed on the basis of Slavic languages, cf. the notion “Slavic-style aspect” coined by Dahl (1985: 84–89) and some subsequent work, e.g. Breu (1992), Johanson (2000: 139–145), Tomelleri (2010), Arkadiev (2014, 2015).

In the world-wide perspective such systems clearly constitute a rarity. However, our goal is to show that the cross-linguistic diversity in the domain of derivational aspectual systems is by no means limited to the better-known Slavic and “Slavic-style” systems.

⇒ The dichotomy between inflectional and derivational aspectual systems is partly similar to the distinction between so-called **resultative-based** vs. **bounder-based perfectives**

(Bybee & Dahl 1989; Bybee et al. 1994: 87–90), however, it is not identical to it — the latter dichotomy only applies to perfectives, while we are looking at both perfectivizing and imperfectivizing derivations.

➤ Derivational and inflectional aspectual systems can co-exist in one language, cf. the well-known case of Bulgarian (Comrie 1976: 23, 31–32; Maslov 2004/1984: 177–209; Lindstedt 1984):

BULGARIAN (Indo-European > Slavic)

	Imperfective	Perfective
Aorist	<i>pisa</i> ‘s/he wrote’	<i>napisa</i> ‘s/he wrote smth. up’
Imperfect	<i>pišeše</i> ‘s/he was writing’	<i>napišeše</i> ‘s/he used to write smth. up’

NB In our study we did not take into account inflectional aspectual categories present in derivational systems.

3. Data and sources

A pilot study with no “language sample” in any strict sense of the word.

Languages discussed are those which have been reported to have derivational aspectual systems or which we came across by accident. The best-known Slavic group is represented by just a few languages.

Mostly secondary data (grammars and special studies), therefore errors, misinterpretations and lacunae cannot be excluded.

➤ We will be very grateful for additional data and corrections!

The language sample:

Indo-European >

Slavic: Russian, Czech (Petrušina 2000), Bulgarian (Maslov 1981; Petrušina 2000), Colloquial Upper Sorbian (Brau 2012)

Baltic: Lithuanian (Arkadiev 2012), Latvian (Hauzenberga-Šturma 1979; Horiguchi 2014)

Germanic: Yiddish (Aronson 1985, Gold 1999)

Romance: Istro-Romanian (Klepikova 1959, Hurren 1969)

Indo-Iranian: Ossetic (Levickaja 2004; Tomelleri 2011)

Kartvelian: Georgian (Vogt 1971; Tomelleri 2009)

Uralic >

Finno-Ugric: Hungarian (Majtinskaja 1959, Kiefer 1982), Mansi (Rombandeeva 1973), Livonian (de Sivers 1971)

Samoyedic: Enets (A.Sh.’s field data), Tundra Nenets (A.Sh.’s field data; Tereščenko 1947; Iosad et al. 2005), Nganasan (Gusev 2012; Tereščenko 1979), Selkup (Kuznecova et al. 1980; Kazakevič 2008)

Altaic > Tungusic: Evenki (Konstantinova 1964)

Sino-Tibetan > Tibeto-Burman: Qiang (LaPolla & Huang 2003), Tangut (Kepping 1985)

Afroasiatic > Chadic: Margi (Hoffmann 1963)

Eskimo-Aleut: West Greenlandic (Fortescue 1984)

Pomoan: Kashaya (Oswalt 1960, 1990), Eastern Pomo (McLendon 1975)

Araucanian: Mapuche (Smeets 2008)

Quechuan: Southern Conchucos (Hintz 2011), Imbabura (Cole 1985), Huallaga (Weber 1996)

Aymaran: Aymara (Hardman et al. 2001; Haude 2003)

Austronesian > Oceanic: Mokilese (Harrison & Albert 1976), Kusaiean (Lee 1974)

4. Parameters of perfectivization and imperfectivization

4.1. (Preferred) direction of derivation

4.1.1. Predominantly perfectivizing

Slavic, Baltic, Yiddish, Ossetic, Georgian, Finno-Ugric, Qianguic, Oceanic, Margi, Aymara

OSSETIC (Indo-European > Indo-Iranian, Caucasus, Tomelleri 2011):

IPFV > PFV: *cæuyn* ‘go (ipfv)’ > *ra-cæuyn* ‘go out (pfv)’, *uarzyn* ‘love (ipfv)’ > *ba-uarzyn* ‘fall in love (pfv)’, *zaryn* ‘sing (ipfv)’ > *a-zaryn* ‘id. (pfv)’

PFV > IPFV: *ra-cæuyn* ‘go out (pfv)’ > *ra-sæj-cæuyn* ‘be going out (ipfv)’

MARGI (Chadic, Nigeria, Hoffmann 1963: 122, 126, 120):

IPFV > PFV: *gù* ‘seek, look for (ipfv)’ > *gù-bá* ‘find out (pfv)’, *kùtù* ‘see, look at (ipfv)’ > *kùt-íá* ‘see, look at (pfv)’, *ὴὴə̀d̀d̀ú* ‘shake (ipfv)’ > *ὴὴə̀d̀-á̀rí* ‘shake a bit (pfv)’

PFV > IPFV: no

MOKILESE (Oceanic, Micronesia, Harrison & Albert 1976: Ch. 9):

IPFV > PFV: *rapahki* ‘search (ipfv)’ > *rapahkih-da* ‘find (pfv)’, *kang* ‘eat (ipfv)’ > *kang-la* ‘eat up (pfv)’

PFV > IPFV: no

4.1.2. Predominantly imperfectivizing

Samoyedic, Evenki, Mapuche

ENETS (Uralic > Samoyedic, Siberia, examples from texts)

PFV > IPFV:

- (5) a. *dʲizi-zo-du?* *piri-?*
pot-DEST.SG-OBL.SG.3PL cook(PFV)-3PL.S
‘They cooked (pfv) a pot.’
- b. *kasa-j?* *kare-zo-da* *piri-go*
man-NOM.SG.1SG fish-DEST.SG-OBL.SG.3SG cook(PFV)-DUR.3SG.S
‘My mate is cooking (ipfv) fish.’
- (6) a. *buniki-nʲ?* *tɔtʃkoz* *ɔta-da-z?*
dog-PL.1DU then feed(PFV)-FUT-1SG.S
‘I will feed (pfv) our dogs.’
- b. *fit* *ɔta-go-za-z?*
you(SG).ACC feed(PFV)-DUR-FUT-1SG.S
‘I will be feeding (ipfv) you.’
- (7) a. *modʲ* *texe* *ηɔ-nʲ?* *kɔdi-?*
I there leg-PL.1SG freeze(PFV)-3PL.S
‘So my legs froze (pfv).’
- b. *uzi-nʲ?* *kɔdi-ηa-?*
hand-PL.1SG freeze(PFV)-MULT-3PL.S
‘My hands are getting frozen (ipfv).’

IPFV > PFV:

- (8) a. *kɔjkutʃi-d* *u,* ... *ɔzaxu-du?* *piʃiŋa-xi?*
be_improper(IPFV)-2SG.S you(SG) that_is_why-OBL.SG.3PL laugh(IPFV)-3DU.S
‘You look improper, that’s why they are laughing (ipfv).’
- b. *kaza-zu?* ... *ηulʲ amulʲe-ɔn* ... *piʃi-l-e-z?*
grandmother-NOM.SG.3PL very terrible-PROL.SG laugh(IPFV)-INCH-M-3SG.M
‘Their grandmother ... started to laugh (pfv) strongly.’

EVENKI (Altaic > Tungusic, Siberia, Konstantinova 1964: 163, 165, 164):

PFV > IPFV: *nene-* ‘pass by (pfv)’ > *nene-dʲe-* ‘go (ipfv)’, *nasana-* ‘wave one’s hand (pfv)’ > *nasana-kta-* ‘wave one’s hand (ipfv)’

IPFV > PFV: *bumu-* ‘be ill (ipfv)’ > *bumu-l-* ‘fall ill (pfv)’

MAPUCHE (Araucanian, Chile, Smeets 2007: 165, 168–169):

PFV > IPFV:

- (9) a. *liiq-iïy*
be_white(PFV)-IND.3
'It became white'.
b. *liiq-küle-y*
be_white(PFV)-STAT-IND.3
'It is white'.
- (10) a. *pe-fi-n* *fey*
see(PFV)-TR-IND.1SG he
'I got sight of him'.
b. *pe-nie-fi-n* *fey*
see(PFV)-PROG-TR-IND.1SG he
'I keep / kept an eye on him'.

IPFV > PFV: no

4.1.3. Without an evident predominant direction of derivation

Istro-Romanian, Quechuan, Pomoan, West Greenlandic

WEST GREENLANDIC (Eskimo-Aleut, Greenland, Fortescue 1984: 278, 282)

IPFV > PFV: *isir-* 'be coming (ipfv)' > *isir-sima-* 'come in (pfv)'

PFV > IPFV: *tuqu-* 'have died (pfv)' > *tuqu-lir-* 'be dying (ipfv)', *qulla-* 'come up (pfv)' > *qulla-riartur-* 'come higher and higher up (ipfv)'

SOUTHERN CONCHUCOS (Quechuan, Peru, Hintz 2011: 27, 30, 32; 50, 52, 56):

IPFV > PFV: *shushu-* 'fall (ipfv)' > *shushu-rpa-* 'fall down (pfv)', *apa-* 'take (ipfv)' > *apa-rku-* 'take along (pfv)', *paka-* 'be hiding (ipfv)' > *para-yka-* 'hide (pfv)'

PFV > IPFV: *ichi-* 'stand up (pfv)' > *ichi-ra:-* 'remain standing (ipfv)'

4.2. Morphology of perfectivization and imperfectivization

The most well-known formal means of perfectivization is prefixation with originally spatial meanings attested in Slavic and neighboring languages. Cross-linguistically, this is clearly an areal feature of Eastern Europe and the Caucasus (see Arkadiev 2014, 2015). Outside of this area perfectivizing prefixation is only attested in some Tibeto-Burman languages.

In many languages where spatial directional markers are used as perfectivizers (Margi, Pomoan, Oceanic, Quechuan), they are suffixes.

NB Verbal spatial affixation does not necessarily develop into perfectivization and does not imply verb-classifying aspect, cf. German, Nakh-Dagestanian, Abkhaz-Adyghean languages etc.

For imperfectivization, suffixal expression seems to be the default case, but in our sample in this function prefixes (Ossetic, Tangut) and reduplication (Oceanic) are also attested.

4.3. Semantic types of perfectivization and imperfectivization

4.3.1. Semantic types of perfectivization

– perfectivization of telic processes yielding the **completive** meaning of an event reaching its (inherent) endpoint:

AYMARA (Aymaran, Bolivia, Haude 2003: 36): *sawu-ña* 'weave (ipfv)' > *saw-su-ña* 'finish weaving (pfv)'

– perfectivization of atelic processes, usually denoting the starting point (**ingressive**), or, more rarely, the terminal point (**terminative**) of the process

IMBABURA QUECHUA (Quechuan, Ecuador, Cole 1985: 150)

- (11) *ruwana-ta* *rura-gri-rka*
poncho-ACC make(IPFV)-INGR-PST
'He began making a poncho.'

WEST GREENLANDIC (Eskimo-Aleut, Greenland, Fortescue 1984: 283)

- (12) *sialli-ssaar-puq*
rain(IPFV)-TERMIN-IND.3SG
'It has stopped raining.'

– perfectivization of states, normally denoting the entry into a state (**inceptive**)

MANSI (Uralic > Finno-Ugric, Rombandeeva 1973: 181): *kut's'(u)* ‘be drunk (ipfv)’ > *xot-kut's'(u)* ‘get drunk (pfv)’, *kantm(u)* ‘be angry (ipfv)’ > *xot-kantm(u)* ‘get angry (pfv)’

– **delimitative** perfectivization, denoting a temporally bounded situation not reaching its inherent endpoint (if any) (Slavic, Baltic, Ossetic, Nganasan, Livonian, Evenki, Margi)

OSSETIC (Indo-European > Indo-Iranian, Caucasus, Axvlediani (ed) 1963: 238)

(13) *iw sal-dær aʒ-ə kwə a-kwəš-ta p'lotnik-æj ...*
one so.much-INDF teay-OBL COMP PRV-work(IPFV)-PST.3SG carpenter-ABL
‘Having worked as a carpenter for several years...’

4.3.2. Semantic types of imperfectivization

– **event-internal imperfectivization**, focusing on the durative phase of a situation

NGANASAN (Uralic > Samoyedic, Gusev 2012: 332)

(14) *Tə, tə-məənĭ ŋonəi-² širkə-tə-ndĭ-² hiŋd'i-²a ŋĭtə-nduŋ*
well that-PROL.ADV still-GEN.PL dig_out(PFV)-PROG-PRS-3PL.S further yet-3PL
‘They are digging (ipfv) further there.’

– **event-external imperfectivization**, “merging” singular event into a series of multiple events (**iterative**) or reinterpreting events as properties (**qualitative**)

ENETS (Uralic > Samoyedic, Siberia): *bεε-* ‘throw (pfv)’ > *bεε-ga-* ‘throw from time to time (ipfv)’, *d'ʷzi-* ‘hit (pfv)’ > *d'ʷzi-ga-* ‘hit from time to time (ipfv)’

SELKUP (Uralic > Samoyedic, Siberia, Kuznecova et al. 1980: 233): *təly-* ‘steal (pfv)’ > *tel-ty-* ‘be a thief (ipfv)’, *səty-* ‘bite (pfv)’ > *sat-ty-* ‘be disposed to bite (e.g. a dog) (ipfv)’

4.4. “**Secondary**” imperfectivization and perfectivization

Two further types of aspectual derivation defined purely formally on the basis of recursive application.

– secondary imperfectivization is applied to an already perfectivized verb.

Slavic, Lithuanian (but not Latvian), Ossetic, Istro-Romanian, Mansi, Qiangic, Pomoan.

RUSSIAN: *pisat'* ‘write’ (IPFV) > *pere-pisat'* ‘rewrite’ (PFV) > *pere-pis-yva-t'* ‘rewrite (durative or iterative)’ (IPFV)

KASHAYA (Pomoan, USA, Oswalt 1960: 165):

kel- ‘peek (ipfv)’ > *kel-ci-* ‘peek once (pfv)’ > *kél-ci-me-du* ‘be peeking once (ipfv)’

– secondary perfectivization is applied to an already imperfectivized verb.

Slavic, Samoyedic, Evenki, West Greenlandic

TUNDRA NENETS (Uralic > Samoyedic, A.Sh.’s field data)

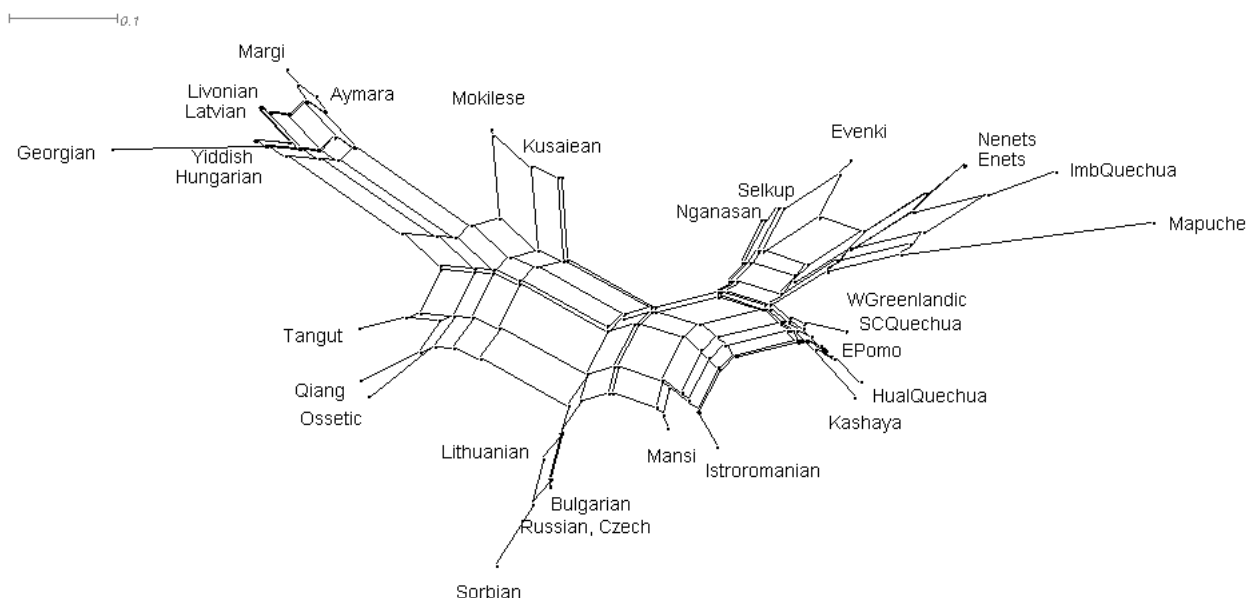
- (15) a. *was'a xarda-n t'u*
Vasja house-DAT.SG enter(PFV).3SG.S
‘Vasja entered (pfv) a house.’
- b. *was'a xarda-n t'u-nă*
Vasja house-DAT.SG enter(PFV)-IPFV.3SG.S
‘Vasja is entering (ipfv) a house.’
- c. *was'a xarda-n t'u-nă-l-i-?*
Vasja house-DAT.SG enter(PFV)-IPFV-INCH-M-3SG.M
‘Vasja started entering (pfv) a house.’

5. A preliminary typology

Parameters of the typology:

- 1) aspectual characteristic of the majority of simplex verbs (pfv, ipfv)
- 2) expression of perfectivization (pref, suf)
- 3) expression of imperfectivization (pref, suf)
- 4) number of perfectivizing derivations (zero, one, two, > two)
- 5) number of imperfectivizing derivations (zero, one, two, > two)
- 6) available semantic types of perfectivization
- 7) available semantic types of imperfectivization

Results in the NeighborNet format (Huson, Bryant 2006):



Preliminary observations on the clusterization of derivational aspectual systems:

- (1) a relatively homogeneous and at the same time genetically and geographically diverse cluster of languages lacking imperfectivization (Georgian, Hungarian, Yiddish, Latvian, Livonian, Margi, Aymara)
- (2) a relatively homogeneous cluster of languages showing a “balance” of perfectivization and imperfectivization (Kashaya, Eastern Pomo, West Greenlandic, South Conchucos and Huallaga Quechua – languages of the Americas)
- (3) a highly heterogeneous cluster of languages with predominant imperfectivization (Samoyedic, Evenki, Mapuche, Imbabura Quechua); note that Mapuche is the only language of our sample altogether lacking perfectivization
- (4) a highly heterogeneous cluster of languages with predominant perfectivization (Slavic, Lithuanian, Mansi, Istro-Romanian; Ossetic, Qiang, Tangut; + outsiders Mokilese and Kusaiean):
 - languages with prefixal perfectivization and secondary imperfectivization (Eurasia)
 - languages with suffixal perfectivization and no secondary imperfectivization (Oceanic)

➡ To clarify the role of areal and genetic factors in the clusterization of aspectual systems we need more empirical data (e.g. what happens in the close relatives or neighbors of Margi, the only Chadic and African language of our sample?).

6. Some generalizations and “universals”

Perfectivizing systems

- Perfectivization is often based on markers with spatial meanings, therefore it is common for such systems to have many different perfectivizers, sometimes applicable to the same base verb yielding different meanings. Imperfectivization may be absent.
- Perfectivization of atelic processes and states \subset perfectivization of telic processes
- Secondary perfectivization \subset secondary imperfectivization

Imperfectivizing systems

- No less than two distinct imperfectivizing derivations. Perfectivization may be absent, though if it is present, normally there are two or more different perfectivizers.
- Perfectivization of telic processes \subset perfectivization of atelic processes and states
- Secondary imperfectivization \subset secondary perfectivization

In general

- Delimitative perfectivization \subset non-delimitative perfectivization of atelic processes and states

Prospects:

- extending the empirical coverage and revealing areal and genetic tendencies;
- explanation of the proposed implicational “universals”.

Abbreviations

1, 2, 3 – 1st, 2nd, 3rd person, ABL – ablative, ACC – accusative, ADV – adverbializer, AOR – aorist, AUX – auxiliary, COMP – complementizer, DAT – dative, DEST – destinative, DU – dual, DUR – durative, FEM – feminine, FUT – future, GEN – genitive, INCH – inchoative, IND – indicative, INDF – indefinite, INGR – ingressive, IPF – imperfect, IPFV – imperfective, M – middle cross-reference series, MULT – multiplicative, NOM – nominative, OBL – oblique, PFV – perfective, PL – plural, PRF – perfect, PROG – progressive, PROL – prolativ, PRS – present, PRV – preverb or prefix, PST – past, S – subject cross-reference series, SG – singular, STAT – stative, TEMP – temporal adverbial, TERMIN – terminative, TR – transitive.

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