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Towards a diachronic typology of ambifixation

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- I thank Yury Lander, in collaboration with whom I started this research in 2020, as well as numerous colleagues who gave me feedback and advice since then.

Roadmap

1. Setting the scene
2. Database and overview
3. Towards a diachronic typology
4. Summary and outlook

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- What is ambifixation?

An ambifix is an affix that can occur both as a prefix (i.e. before the root) and as a suffix (i.e. after the root).

Alternative terms:

“mobile affix” (Kim 2010 etc.)

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- One of the well-known cases is the **Lithuanian** reflexive
Nevis & Joseph 1993, Embick & Noyer (2001: 578–580), Šereikaitė
(2017, 2024), Stump (2022: 193-211), Kushnir (2025)
- Suffix if the verb is unprefixated, prefix in the presence of any
other prefixes.

(1) a. *domėj-au-si*

be_interested-PST.1SG-RFL

‘I was interested.’

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Ambifix vs. unrelated prefix and suffix:

- identity of function: the prefix and the suffix should express the same featural / semantic content;
- identity of form: the prefix and the suffix should have one phonological form, with only transparent phonological modifications allowed.

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- Ambifixation is one of the blank spots of morphological typology.
- Open questions:
 - In which languages are ambifixes attested and how widespread they are cross-linguistically?
 - By which parameters do ambifixes vary across languages?
 - From which diachronic sources and through which historical pathways do ambifixes arise and why are they less frequent than “ordinary” prefixes resp. suffixes?

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- Coming back to the Lithuanian reflexive, its historical development can be reconstructed based on historical sources (Stolz 1989; Petit 2010: Kap. 5):
 - the reflexive marker {si} originates from an enclitic (with cognates across the Indo-European languages) that occurred after the verb by default, but could also be postposed to certain preverbal elements such as negation and (spatial) preverbs;
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- I single out and discuss a few diachronic pathways that appear to be cross-linguistically recurrent.
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2. Database and overview

- This work is a part of the broader typological study of ambifixation.
- See Arkadiev 2025 for an (already somewhat outdated) overview of the typology.

2. Database and overview

Sources:

- grammatical descriptions;
- special publications on morphology and morphosyntax;
- comparative and historical work.

2. Database and overview

- (As of June 2026) A phenomenon-based sample of 146 instances of ambifixation from 124 languages (50 families, 82 genera, including isolates) from all over the world.
- NB Work in progress, so coverage is certainly not ideal and will be improved.
- See Miestamo 2025 on phenomenon-based sampling

2. Database and overview



Map created with Lingtypology, Moroz (2017)

2. Database and overview

Some better-represented families:

- Atlantic-Congo: 16 languages
- Indo-European: 13 languages
- Nuclear Trans-New-Guinean: 11 languages
- Austronesian: 10 languages
- Nakh-Daghestanian: 9 languages

2. Database and overview

- Ambifixation tends to involve whole paradigms of affixes, which is related to the morphological features most frequently involved in ambifixation.
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Hypothesis:

- The non-random distribution of ambifixes across functional domains must be related to pathways of diachronic development leading to ambifixation.

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 - in most cases the origins of ambifixes can only be inferred or reconstructed;
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3. Towards a diachronic typology

- Today's discussion is based on 75 cases from 68 languages (27 families, 47 genera):
 - Indo-European: 11 lgs
 - Nuclear Trans-New-Guinean: 11 lgs
 - Atlantic-Congo: 7 lgs
 - Austronesian: 5 lgs
 - Nakh-Daghestanian: 5 lgs
- No attempt at quantitative analysis

3. Towards a diachronic typology



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- Still, at least the following recurrent pathways to ambifixation can already be discerned:
 - 1) affixalisation of phrasal/sentential clitics;
 - 2) univerbation of inflected grammatical elements “on the wrong side” of the host;
 - 3) adverbs/adpositions becoming suffixes and prefixes with different word classes;
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3.1. Affixalisation of clitics

Affixes vs. clitics (cf. Spencer & Luís 2012, 2013):

- both are bound morphs, i.e. cannot occur in isolation;
- affixes are positioned with respect to roots, stems or words;
- clitics are positioned with respect to larger constituents (phrases or clauses).

Hinges on the definition of “word”, which is itself loaded with problems (Haspelmath 2011, Tallman 2020 etc.).

NB my understanding of the clitic vs. affix distinction is not coextensive with the one proposed by Haspelmath 2022 or Zingler 2022.

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Bosnian-Croatian-Montenegrin-Serbian: bound pronominals occur in the second position in the clause and need not be verb-adjacent (Wackernagel's law)

- (2) a. *Ja=mu=ga* *često* *dajem.*
1SG.NOM=3SG.DAT=3SG.ACC often give.PRS.1SG
'I often give it to him.' (Alexander 2000: 22)
- b. *Juče=si=mu=ga* *ti* *dala.*
yesterday=2SG.AUX=3SG.DAT=3SG.ACC 2SG.NOM give.LF.F.SG
'It was you who gave it to him yesterday.' (ibid.)

A paradigm example of clitics

3.1. Affixalisation of clitics

Standard Bulgarian: bound pronominals must be verb-adjacent, but cannot be clause-initial (Tobler-Mussafia law)

- (3) a. *Včera Vera mi=go=dade.*
yesterday Vera 1SG.DAT=3SG.ACC=give.AOR.3SG
'Vera gave it to me yesterday.' (Alexander 1994: 3)
- b. *Dade=mi=go včera Vera.*
give.AOR.3SG=1SG.DAT=3SG.ACC yesterday Vera
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- c. **Vera=mi=go včera dade.*
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Position determined (in part) by the sentence-level syntax,
hence still clitics

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Macedonian: bound pronominals are verb-adjacent, and their position vrt verb is determined by the latter's inflectional form:

- preposition with indicative forms;
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- b. *Donesi-mi-go!*
bring.IMP.2SG-1SG.IO-3SG.DO
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Position determined entirely by the properties of the verb itself,
hence not clitics but ambifixes

3.1. Affixalisation of clitics

- The same reasoning applies, *mutatis mutandis*, to many so-called “pronominal clitics” in Romance languages (Monachesi 2005, Spencer & Luís 2012: Ch. 5), Modern Greek (Joseph 1988) and Albanian (Newmark 1955: 168-170).
- ☞ It was Newmark who used the term **ambifix** for the first time in his dissertation on Albanian.

3.1. Affixalisation of clitics

- Romance and Balkan Slavic object markers:
 - (0) unstressed pronouns →
 - (1) Wackernagel (second position) enclitics →
 - (2) adverbial clitics subject to Tobler-Mussafia law (“no clitics in first position of the clause”) →
 - (3) ambifixes whose position wrt verb depends on its inflectional features
- Benacchio 1988, Alexander 1994, 2000, 2020, Pancheva 2005, Friedman & Joseph (2025: 802-807, 816-817) on Balkan Slavic
- Wanner 1981, 1987, Hinzelin 2007, Pescarini 2021 on Romance
- NB the applicability of Wackernagel’s law is subject to qualifications and variation in both early Romance (Wanner 1987, Pescarini 2021) and early Slavic (Pancheva 2005)

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3.1. Affixalisation of clitics

- Romance and Balkan Slavic object markers:
 - (0) unstressed pronouns →
 - (1) second position (Wackernagel) enclitics →
 - (2) adverbial clitics subject to Tobler-Mussafia law (“no clitics in first position of the clause”) →
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3.1. Affixalisation of clitics

- Conventionalisation of statistical tendencies in the use of different verbal forms in V=om X vs. X=om V clauses as paradigmatic restrictions on the position of verb-adjacent markers (Wanner 1981, 1987: 269-270, 278; Bennett 2006; Russi 2008: 78-9).

3.1. Affixalisation of clitics

- A separate important question: how do enclitics become proclitics and subsequently prefixes?
- See e.g. the notion of “prosodic realignment” proposed for different yet related developments in Hill et al. (2019).
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3.1. Affixalisation of clitics

- (5) a. **Macedonian:** *mu-go-davam* *daj-mu-go*
b. **Albanian:** *i-a-jap* *jep-i-a*
c. **Modern Greek:** *tu-ton-đino* *đose-tu-ton*
d. **Aromanian:** *lj-u-dau* *dă-lj-u*
'I give it to him.' 'Give it to him!'

(Based on Alexander 2000: 13; Mišeska-Tomić 2005: 300-302; Buchholz & Fiedler 1987: 82; Friedman & Joseph 2025: 803-4)

- (6) a. **Italian:** *glie-lo-do* *da-glie-lo*
b. **Catalan:** *li-ho-dono* *dóna-li-ho*
'I give it to him.' 'Give it to him!'

(Based on Wheeler et al. 1999: 172-174; Maiden & Robustelli 2007: 98-99)

3.1. Affixalisation of clitics

- Balkan Slavic, in particular, Macedonian, shows convergence to a pattern actually extending beyond the Balkans.

- Lindstedt (2014: 172):

“Balkan Slavic is typologically different from the rest of Slavic languages, and this difference is mainly explained as a result of the influence of other Balkan languages. Balkan Romance does not differ from other Romance languages so radically.”

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3.1. Affixalisation of clitics

- Similar processes likely attested elsewhere:
 - Austronesian verbal and possessive pronominal markers (Chen et al. 2024; Kaufman 2008)
 - Atlantic-Congo gender markers (Güldemann & Fiedler 2022)

3.2. Univerbation in counterposition

- An element carrying a prefix resp. suffix can be suffixed resp. prefixed to a host, resulting in so-called “counterposed affixes” (Stump 2022):

(7) a. $m-X \sim X m-Y > m-X \sim X-m(-y)$
b. $X-m \sim Y-m X > X-m \sim (y-)m-X$

- Recall the origin of ambifixal behaviour of the Lithuanian reflexive marker:

c. $V=si \sim PVB=si V > V-si \sim PVB-si-V$

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3.2. Univerbation in counterposition

- This process is attested in different language families and is found in both verbal and nominal domains.

3.2. Univerbation in counterposition

Eastern Fula (Atlantic-Congo > Atlantic, Nigeria; Arnott 1970: 216)

(9) a.	<i>'o-war-ii</i> 3SG-come-PST 's/he came'	<i>'o-war-ii-no</i> 3SG-come-PST- RS 's/he had come'	general past
b.	<i>'o-don-war-a</i> 3SG- ASP -come-PROG 's/he is coming'	<i>'o-don-no-war-a</i> 3SG- ASP-RS-come-PROG 's/he was coming'	progressive

- The stative/progressive prefix *don-* originates as a locative copula and is written separately in many descriptions of Fula languages (Kramer 2024: 126-129).

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Western Dani (Nuclear Trans New Guinea > Dani, Indonesia; Barclay 2008: 333–385) object indexing

	'think'	'see'	'inspect'
1Sg	<i>n-ombakerak</i>	<i>nee-gerak</i>	<i>mbaan-nee-gerak</i>
2Sg	<i>k-ombakerak</i>	<i>kee-gerak</i>	<i>mbaang-gee-gerak</i>
3Sg	<i>ombakerak</i>	<i>ka-garak</i>	<i>mbaang-ga-garak</i>
1Pl	<i>n-in-ombakerak</i>	<i>nii-gerak</i>	<i>mbaan-nii-gerak</i>
2Pl	<i>k-in-ombakerak</i>	<i>kii-gerak</i>	<i>mbaang-gii-gerak</i>
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3.2. Univerbation in counterposition

- An opposition between
 - a closed class of simplex verbs with object prefixes and
 - a potentially open class of complex verbs with object suffixes originating from compounds or serialisation
 - well-attested across the Papuan languages of New Guinea (Foley 1986: 139-142; Suter 2012; Windschuttel 2018; Fedden to appear).

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3.2. Univerbation in counterposition

- Similar cases of **complex predicates** giving rise to patterns of ambifixation via univerbation are also found in a number of language families (Nakh-Daghestanian and Sino-Tibetan in Eurasia; Cushitic, Saharan, Kunama in Africa; Siouan and Uto-Aztecan in North America).
- See Arkadiev (submitted) for a discussion.

3.2. Univerbation in counterposition

An example from nominal morphology:

- Split possessive marking in a number of Eastern Austronesian languages (Lichtenberk 1985, Berg 2022);
- suffixes for inalienable possession, prefixes for alienable possession;
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lamalele (Austronesian > Oceanic, New Guinea; Ezard 1971)
possessive markers

	“intimate”	“intermediate”	“distal”
1Sg	<i>-ku</i>	<i>a-ku-</i>	<i>ya-ku-</i>
2Sg	<i>-mu</i>	<i>a-mu-</i>	<i>ya-mu-</i>
3Sg	<i>-na</i>	<i>a-na-</i>	<i>ya-na-</i>
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- lamalele possessive prefixes clearly originate from preposed free possessive classifiers with suffixes;
- well-attested in the related languages for alienable possession (Lichtenberk 1985, 2018).

3.2. Univerbation in counterposition

Sinaugoro (Austronesian > Oceanic, New Guinea;
Tauberschmidt 1999: 59-61):

- (10) a. *kwaku-gu* inalienable possession
 leg-1SG
 ‘my leg’
- b. *ḡe-gu vanuḡa* alienable possession (neutral)
 NTR-1SG village
 ‘my village’
- c. *ḡa-gu ḡarivata* alienable possession (edible)
 ED-1SG banana
 ‘my banana’

ED – edible classifier, NTR – neutral classifier

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3.2. Univerbation in counterposition

- Univerbation in counterposition appears to constitute the most robustly attested pathway to ambifixation in the languages of the world.
- Notably, this process, which also frequently gives rise to periodic multiple exponence (Harris 2017), yields both these structures as a mere by-product of grammaticalisation, often in unrelated functional domains.

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3.3. Affixalisation of adverbs or adpositions

- Adverbials or adpositions (and probably other word classes, e.g. classifiers) can encliticise to nouns becoming (e.g. case) suffixes and procliticise to / incorporate into verbs becoming (e.g. spatial) prefixes (or vice versa).

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- Cf. Kuryłowicz (1964: 171–178), Pinault (1995), Hill et al. (2019) on Indo-European spatial adverbs developing into adpositions and preverbs.

3.3. Affixalisation of adverbs or adpositions

Aghul (Nakh-Daghestanian > Lezgetic, Russia; Maisak 2014)
verbal spatial prefixes (preverbs) and nominal locative (case) suffixes:

function	verbal prefix	nominal suffix
INTER	$\zeta(a)-$	$-\zeta$
ANTE	$hV-$	$-h$
POST	$qV-$	$-q$
APUD	$f(a)-$	$-w$
SUPER	$(a)l-$	$-l$
SUB/CONT	$kV-$	$-k$

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- (11) *ruš.a* *gardani-q* *šarf* *q-ix.i-ne*
girl.ERG neck-POST scarf POST-put.PFV-AOR
'The girl put a scarf on her neck.'

3.3. Affixalisation of adverbs or adpositions

- The formally cognate and functionally similar (though not identical) nominal suffixes and verbal prefixes in a number of Nakh-Daghestanian languages are hypothesised to go back to spatial adverbs (cf. e.g. Alekseev 1985: 117-121).
- Similar developments are attested e.g. in Panará (Macro-Je), Amharic and Sumerian (the latter two cases are not in my database, since the nominal markers are clitics rather than affixes).

3.3. Affixalisation of adverbs or adpositions

- In some languages different stages of this development can even be observed synchronically.

3.3. Affixalisation of adverbs or adpositions

Abkhaz (Northwest Caucasian, Hewitt 1979: 114)

instrumental:

- (12) a. *a-ž'ah^wa* *a-la* *sə-jə-sə-jt̚*
DEF-hammer 3SG.IO.N-with 1SG.ABS-3SG.M.IO-hit-DCL
'I hit him with the/a hammer.' (adposition)

ABS – absolutive, DCL – declarative, DEF – definite, M – masculine,
N – non-human, IO – indirect object

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Abkhaz (Northwest Caucasian, Hewitt 1979: 114)

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- (12) b. *a-ž'ah^wa-la* *sə-jə-sə-jt̚*
DEF-hammer-INS 1SG.ABS-3SG.M.IO-hit-DCL
'I hit him with the/a hammer.'
(enclitic > case suffix)

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Abkhaz (Northwest Caucasian, Hewitt 1979: 114)

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- (12) c. *a-žʹah^wa* *s-a-la-jə-sə-jt̚*
DEF-hammer 1SG.ABS-3SG.IO.N-INS-3SG.M.IO-hit-DCL
‘I hit him with the/a hammer.’
(incorporation > applicative prefix)

ABS – absolutive, DCL – declarative, DEF – definite, M – masculine,
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3.3. Affixalisation of adverbs or adpositions

- Does this pathway ever lead to “true” ambifixes fully satisfying the Identity of Function criterion?
- Even if the answer to this question is negative and these and similar cases should not be considered ambifixes *sensu stricto*, they are instructive from a diachronic-typological perspective.

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- Does this pathway ever lead to “true” ambifixes fully satisfying the Identity of Function criterion?
- Even if the answer to this question is negative and these and similar cases should not be considered ambifixes *sensu stricto*, they are interesting from a more general diachronic-typological perspective.
- Cf. the notion of “polygrammaticalisation” (Craig 1991)

3.4. Ambifixes from compounds

- Derivational markers often arise from members of compounds (Rainer 2015: 211, Rainer to appear).
- If the order of compound members was variable, this can give rise to ambifixation.
- Very few clear cases so far; remarkably, all of them from the same domain (diminutives) and the same region (East Asia).

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Old Japanese (6th-8th cent. AD; Vovin 2020: 98-101, 212-214; Kupchik 2023: 145-146, 198-200) diminutive prefix *ko-* from the noun ‘child’; also occurs as suffix with a few nouns.

- (13) a. *ko-saru* ‘little monkey’ (Vovin 2020: 99)
b. *se-ko* ‘my beloved’ (Vovin 2020: 213)

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Chukchi (Chukotko-Kamchatkan, Russia; Pupynina et al. 2024) diminutive suffix *-qeɟ/-qaj* (?< ‘animal kid’), occurs as prefix with nouns denoting animals and some others:

- (14) a. *tekiçɣə-qeɟ* ‘piece of meat’
b. *qeɟ-ʔəttʔən* ‘baby-dog’
c. *qaj-kojŋən* ‘small cup’

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Roadmap

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2. Database and overview
3. Towards a diachronic typology
4. Summary and outlook

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- Ambifixes are attested in many language families across the world and deserve more attention from morphologists.
- There are several recurrent pathways through which ambifixes can arise:
 - morphologisation of clitics;
 - grammaticalisation of compound members;
 - polygrammaticalisation of adverbial/adpositional elements;
 - as a by-product of morphologisation of affix-bearing elements in counterposition.

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- Hypothesis: The non-random distribution of ambifixes across functional domains must be related to pathways of diachronic development leading to ambifixation.
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- Given that there are many ways to ambifixation, why are ambifixes rare in comparison with “regular” or “stable” suffixes and prefixes?

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- Some hypotheses (cf. Harris 2008, 2010 on diachronic explanation of typological rarity):
 - source constructions for ambifixes are comparatively rare, even if cross-linguistically recurrent;
 - development of ambifixes proceeds in several stages, each with its own prerequisites, which further diminishes the probability of their development;
 - ambifixation can be diachronically unstable, especially if the distribution of the prefixal and suffixal variants is lexically or grammatically skewed.

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Thank-you for your-attention!



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3.2. Univerbation in counterposition

- Ambifixation cum multiple exponence:

Joola Fogy (Atlantic-Congo > North-Central Atlantic, Senegal, Bassène 2024: 197, 198): noun class markers are prefixed by default, but additionally occur as suffixes in definite forms

- (9) a. *bu-beer* *b-eeemek*
CL-tree CL-big
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- Suffixed noun class markers in a number of western Atlantic-Congo languages clearly go back to encliticised determiners (see e.g. Greenberg 1977; Dimmendaal 2001: 378-382; Good 2018: 36-40; Güldemann & Fiedler 2022).