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Typology and diachrony of ambifixes: some preliminary observations

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Disclaimer

- Most of this presentation is based on my joint work with Yury Lander (e.g. Arkadiev & Lander 2022)
- Not just work in progress, but a pilot study to be developed further thanks to the future (!) funding of the Deutsche Forschungsgemeinschaft and generous hosting by the Potsdam Typology Lab.



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Roadmap

1. Definition
2. Database
3. Typology
4. Diachronic speculations
5. Summary and outlook

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1. Definition

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).

The term was used for the first time by Eric Hamp (1959), cf. also Malkiel (1978: 145), Plungian (2000: 88-89), Hall (2000: 536), Mugdan (2015: 268).

Alternative terms:

“mobile affix” (Noyer 1994; Kim 2010 etc.)

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1. Definition

San Francisco del Mar Huave (Huavean, Guatemala; Kim 2008: 324):

- (1) a. *t-a-jch-ius* prefix
 CMPL-TV-give-1
 ‘I gave’
- b. *pajk-a-t-u-s* suffix
 face.up-V-**CMPL**-ITR-1
 ‘I laid face up’

CMPL – completive, ITR – intransitive, (T)V – theme vowel

1. Definition

Some caveats:

- **ambifixes** should not be confused with **circumfixes**, which obligatorily contain two parts; however, there are cases where both the prefixal and the suffixal versions of an ambifix co-occur in one form;
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The term “**ambifix**” is more appropriate than “**mobile affix**”:

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Besleney Kabardian (Northwest Caucasian, Russia; own fieldwork): mobile prefix, not ambifix

- (2) a. *sə-ǰ-**a**-de-**k**^w-a*
1SG.ABS-CSL-**3PL.IO**-COM-go-PST
- b. *s-**a**-ǰə-de-**k**^w-a*
1SG.ABS-**3PL.IO**-CSL-COM-go-PST
- a=b 'I came with them.'

ABS – absolutive, CSL – cislocative, COM – comitative applicative,
IO – indirect object

1. Definition

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.).

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Macedonian (Indo-European > Slavic; Spencer & Luís 2012: 65):

- (3) a. **Mi=go=dad-e** Vera včera
1SG.DAT=3SG.M.ACC=give-AOR.3SG Vera yesterday
'Vera gave me it yesterday.'
- b. **Nosi=mi=go!**
bring.IMP.2SG=1SG.DAT=3SG.M.ACC
'Bring it to me!'

AOR – aorist, IMP – imperative

1. Definition

Bulgarian (Indo-European > Slavic; Avgustinova 1997: 50):

- (4) a. *Otnovo=ja* *vidja-x*
again=3SG.F.ACC see-AOR.1SG
'I saw her again.'
- b. *Vidja-x=ja* / **Ja=vidja-x*
see-AOR.1SG=3SG.F.ACC **3SG.F.ACC=see-AOR.1SG*
'I saw her.'

1. Definition

Both Bulgarian and Macedonian bound pronouns are verb-adjacent, however, there is a major difference:

- in Bulgarian, they occur in the second position in the clause, hence are clitics;
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- The same reasoning applies, mutatis mutandis, to many so-called “pronominal clitics” in Romance languages, see e.g. Monachesi 2005, Spencer & Luís 2012: Ch. 5.

1. Definition

Ambifix vs. unrelated prefix and suffix:

- identity of function: the prefix and the suffix should express the same featural / semantic content;
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Some borderline cases with respect to identity of function:

- instrumental case suffix *-la* vs. instrumental applicative prefix *la-* in Abkhaz and Abaza (Northwest Caucasian);
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2. Database

Ambifixes have so far received little attention from linguists.

- in theoretical morphology only recently (Embick & Noyer 2001: 576-578; Cysmann & Bonami 2016; Stump 2017, 2022);
- in morphological typology not at all (e.g. not mentioned in Bickel & Nichols 2007: 198–201; Haspelmath & Sims 2010; nor recognised in WALS or Grambank).

I aim to fill this gap from an empirical perspective.

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Area	Languages	Genera	Families
Eurasia	24	16	8
Africa	13	9	6
Oceania	5	4	3
Australia	1	1	1
North America	5	4	4
South America	6	5	5

2. Database



Map created with Lingtypology, Moroz (2017)

2. Database

Sources:

- grammatical descriptions;
- special publications on morphology and morphosyntax

2. Database

Some better-represented families:

- Indo-European: 12 languages
- Atlantic-Congo: 8 languages
- West Caucasian: 4 languages

2. Database

The database includes the following information about each instance of ambifixation:

- single affix vs. a class of affixes;
- function(s) expressed;
- type of conditioning for the choice of orientation;
- (putative) diachronic origins;
- any other relevant information.

2. Database

Some languages have more than one type of ambifixation differing along some of these parameters:

- Abaza: 3
- Abkhaz, Fula, French, Máku: 2

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The proposed typology of ambifixes is based on the type of conditioning factors determining the prefixal vs. suffixal orientation of ambifixes:

- phonological
- morphotactic
- paradigmatic
- part of speech
- lexical
- syntactic and/or semantic

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Some cases of ambifixation appear to be conditioned by more than one type of factor simultaneously

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The orientation of the affix is determined by the phonological environment (e.g. the phonological composition of the root or stem it attaches to, Paster 2006: 253–254).

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- Most known cases: consonantal vs. vocalic edge
- Also: syllable structure (negation in [Alabama](#), Montler & Hardy 1991)
- Other potential factors: stress (so far unattested) and tone (disputable, see Jenks & Rose 2015 on [Moro](#))

3.1. Phonological conditioning

Afar (Cushitic, Ethiopia; Fulmer 1991): various verbal affixes occur prefixed to roots beginning in vowels except /a/ and suffixed to roots beginning in /a/ or consonants:

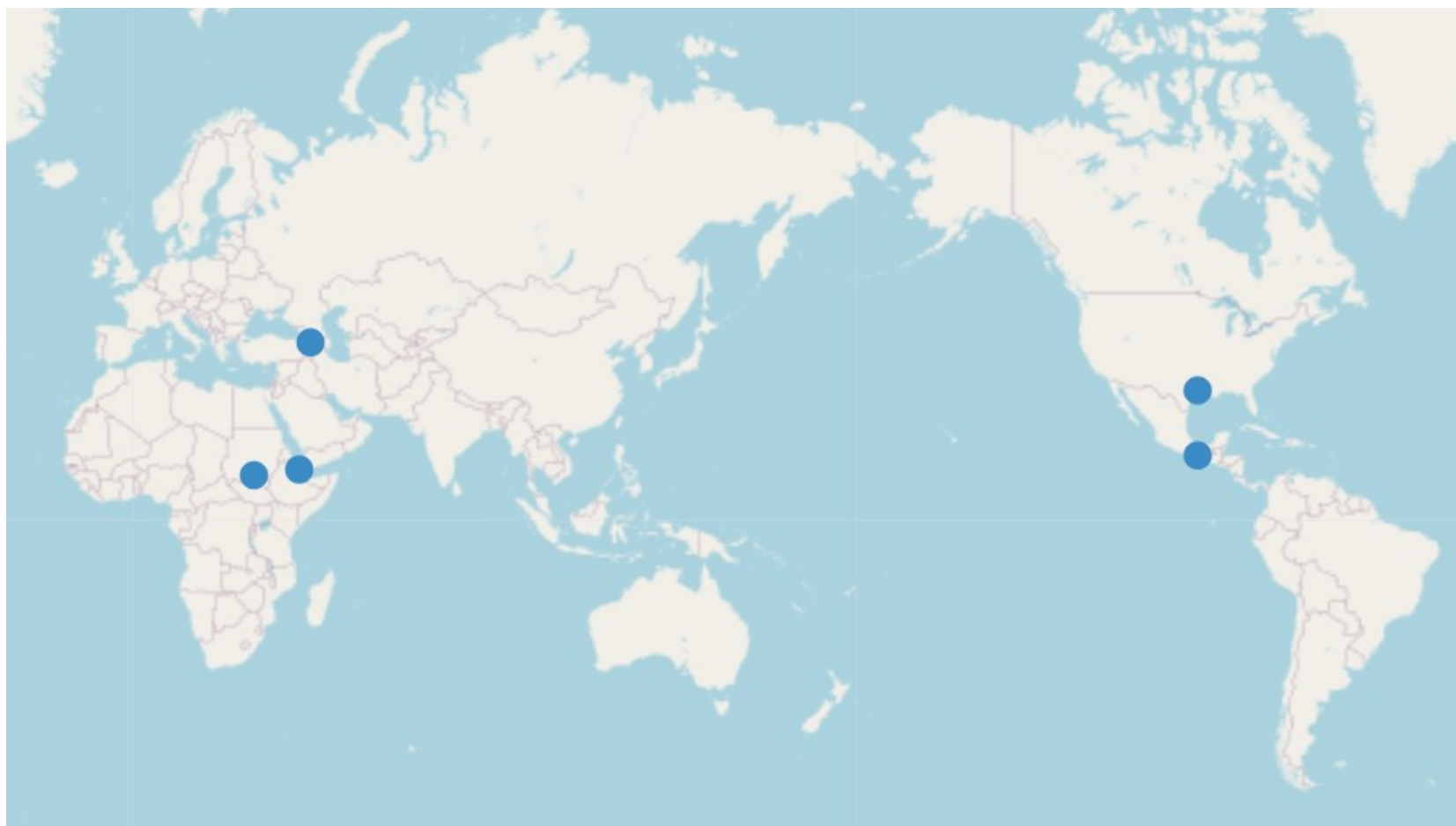
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3.2. Morphotactic conditioning

The orientation of the affix is determined by the linear morphological structure of the word, i.e. by the presence of other affixes.

3.2. Morphotactic conditioning

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

(6) a. *domėj-au-si*

be_interested-PST.1SG-RFL

‘I was interested.’

b. *ne-pa-si-domėj-au*

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PVB – preverb

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Murrinhpatha (Daly, Northern Australia; Nordlinger 2010: 334) dual non-sibling marker occurs in prefixal position, but when the latter is occupied by an object marker, it appears as a suffix:

- (7) a. *bam-**ngintha**-ngkardu*
3SG.SBJ.NFUT-**DU.F**-see
'They two (non-siblings) saw him/her'
- b. *bam-**ngi**-ngkardu-**ngintha***
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DU – dual, F – feminine, NFUT – non-future, OBJ – object, SBJ – subject

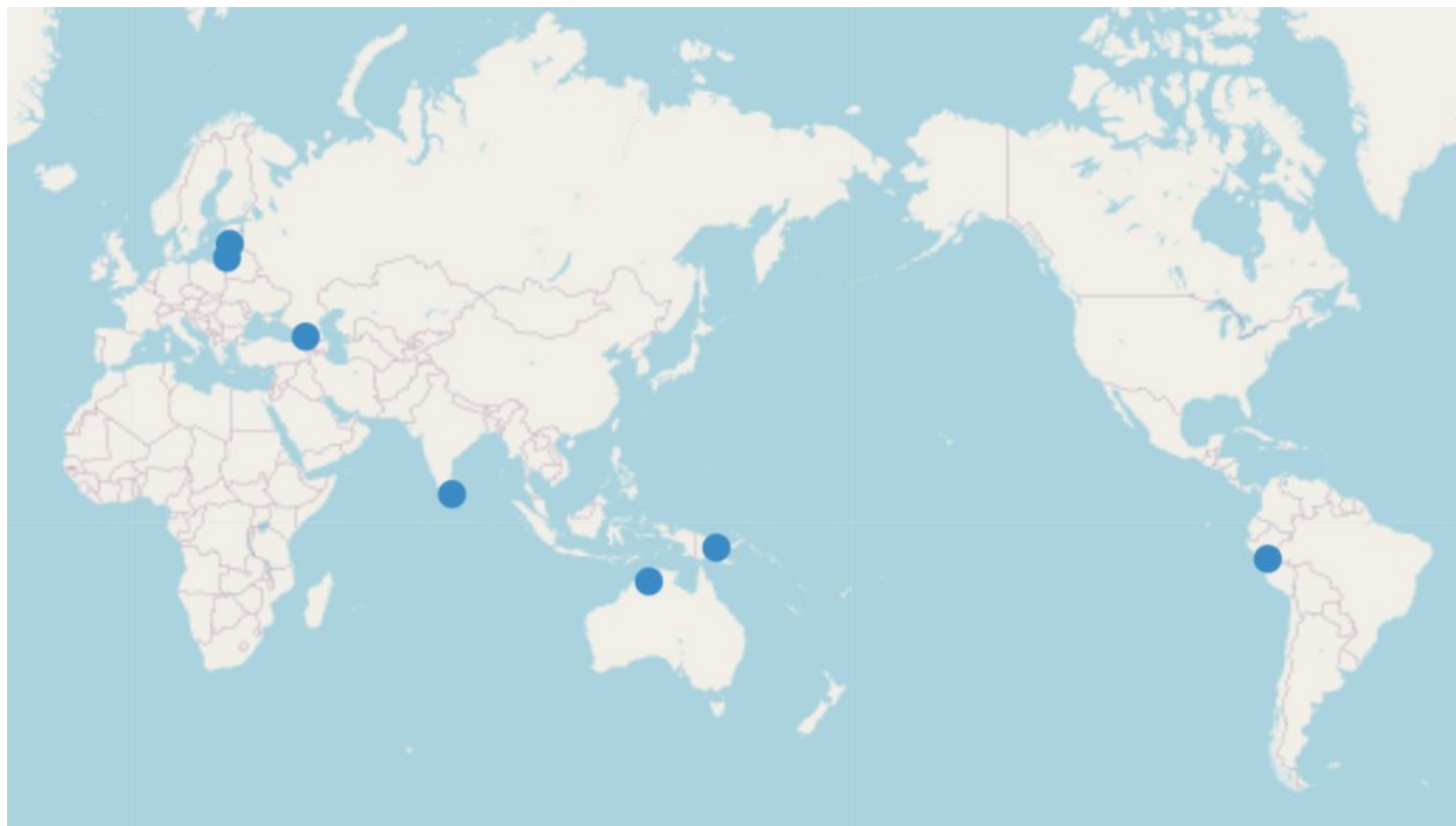
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The orientation of the affix is determined by the inflectional features of the wordform it occurs in (but cannot be reduced to the presence/absence of any particular [types of] morphemes).

- How to distinguish it from syntactic and semantic conditioning discussed below?
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Catalan object bound pronominals, traditionally called “clitics” (Wheeler et al. 1999: 172-174):

- prefixes in finite forms (except positive imperative);
- suffixes in positive imperative and non-finite forms

- (8) a. *m'ajuda* 's/he helps me'
b. *ajuda'm* 'help me!'
c. *ajudar-me* 'to help me'

The same rule in Spanish and Italian and, remarkably, also in Macedonian (Friedman 2002: 38-39).

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The same rule in Spanish and Italian and, remarkably, also in Macedonian (Friedman 2002: 38-39).

3.3. Paradigmatic conditioning

Catalan object bound pronominals, traditionally called “clitics” (Wheeler et al. 1999: 172-174):

- prefixes in finite forms (except positive imperative);
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Abkhaz (Northwest Caucasian; Chirikba 2003: 44-45) negation marker *-m-*:

- stative verbs: suffix in all forms;
- dynamic verbs:
 - prefix in all non-finite forms and non-declarative moods;
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Abkhaz negation (Chirikba 2003: 44-45, *-ga-* ‘take’, 3Pl>3Sg):

	Finite	Non-finite
Present	<i>də-r-ga-wá-m</i>	<i>já-rə-m-ga-wa</i>
Aorist	<i>d-rə-m-gá-jt̚</i>	<i>já-rə-m-ga</i>
Future I	<i>də-r-ga-rá-m</i>	<i>já-rə-m-ga-ra</i>
Perfect	<i>d-rə-m-gá-c-t̚</i>	<i>já-rə-m-ga-c</i>

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Yupiltepeque (extinct; Xincan, Guatemala; Rogers 2010: 224-231) subject markers:

- intransitive verbs: always prefixes
- transitive verbs: prefixes in the imperfective, suffixes in the perfective

NB Not all prefixes and suffixes adhere to the Same Form criterion.

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	prefixes		suffixes	
	Sg	Pl	Sg	Pl
1	<i>n-</i>	<i>lki-</i>	<i>-n/-n'</i>	<i>-lki'</i>
2	<i>k-</i>	<i>lka-/lik-</i>	<i>-ka'</i>	<i>-lik</i>
2 formal	<i>y-</i>	<i>liy-</i>	<i>-y</i>	<i>-liy</i>
3	<i>h-</i>	<i>lih-</i>	<i>-yi</i>	<i>-hri</i>

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3	<i>h-</i>	<i>lih-</i>	<i>-yi</i>	<i>-hri</i>

3.4. Part-of-speech conditioning

The orientation of the affix depends on the word class of its host.

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Agreement markers in **Walman** (Torricelli, New Guinea; Dryer 2019: 176-176): prefixes with verbs and suffixes with adjectives.

- (9) a. *pelen* *y-aykiri*
dog PL-bark
‘The dogs are barking.’ verb
- b. *nypeykil* *lapo-y*
tree.PL big-PL
‘big trees’ adjective

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Abaza and Abkhaz instrumental marker: (case) suffix with nominals, (applicative) prefix with verbs:

Abaza (own fieldwork, textual examples)

(10) a. *a-bacaçaχ^wa-k^wa-la* *s-a-g^w-lə-r-cə-d*
DEF-rod-PL-INS 1SG.ABS-3SG.N.IO-LOC-3SG.F.ERG-
beat-DCL

‘She beat me with rods.’

b. *a-čərv^wá* *a-zernó* *a-lá-ɣ-ça-r-g-əj-t*
DEF-spade DEF-corn 3SG.N.IO-INS-CSL-LOC-3PL.ERG-
carry-PRS-DCL

‘They gather corn with a spade.’

ABS – absolutive, CSL – cislocative, DCL – declarative, DEF – definite, F – feminine, ERG – ergative, IO – indirect object, LOC – locative preverb, N – neuter

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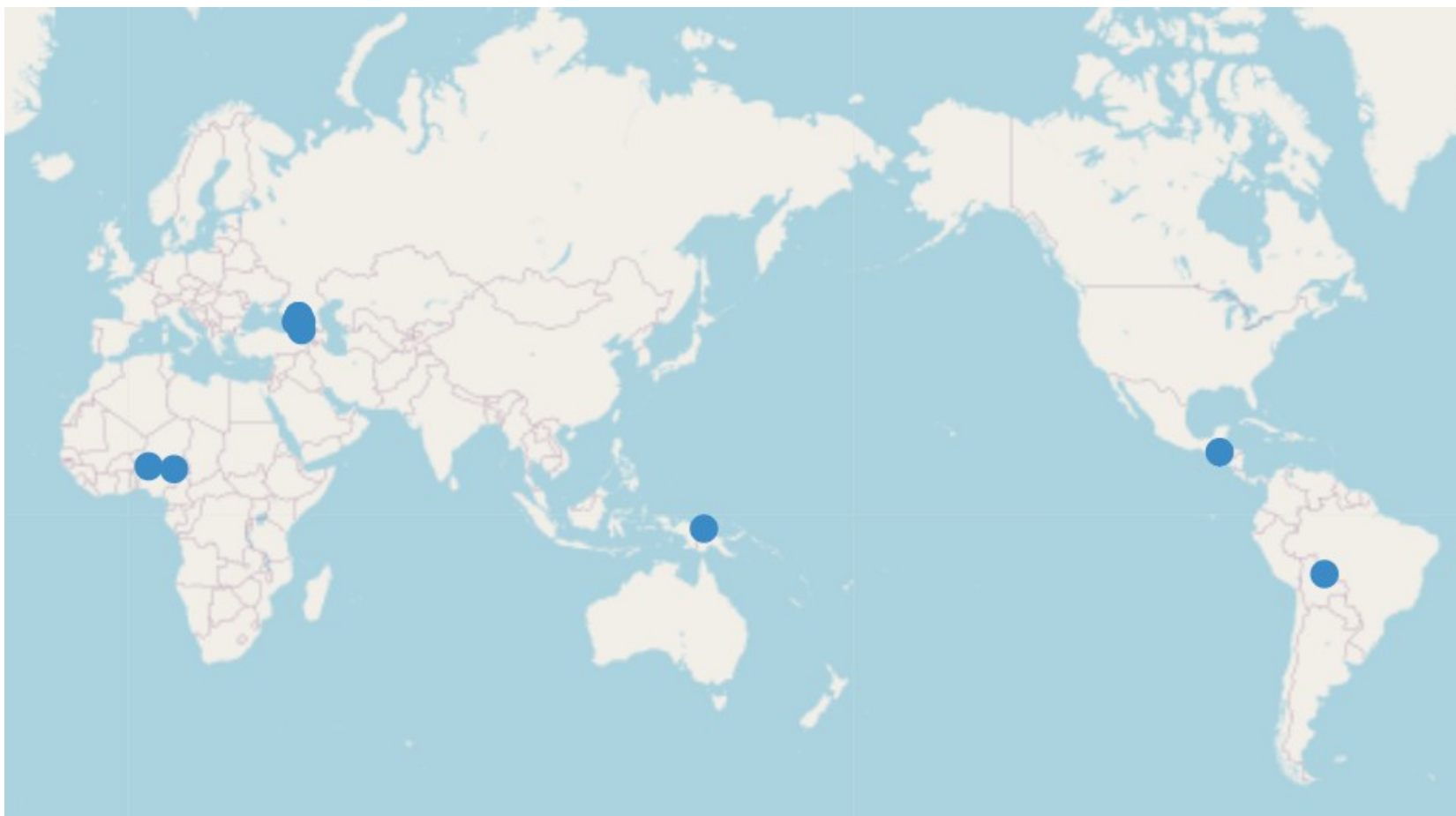
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‘They gather corn with a spade.’

A borderline case with respect to the Identity of Function criterion

ABS – absolutive, CSL – cislocative, DCL – declarative, DEF – definite, F – feminine, ERG – ergative, IO – indirect object, LOC – locative preverb, N – neuter

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3.5. Lexical conditioning

The orientation of the affix is determined by lexically-specified features of the base (e.g. inflection class).

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	'stand'	'wash'	'see'
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English denominal/deadjectival verbs in {*en*}:

- (11) prefix with Latinate: *enlarge*, *ensure*, *encourage*,
enrage ...
suffix with Germanic: *deafen*, *harden*, *sharpen*,
strengthen ...
both: *enlighten*, *enliven*, *embolden* + *embiggen* etc
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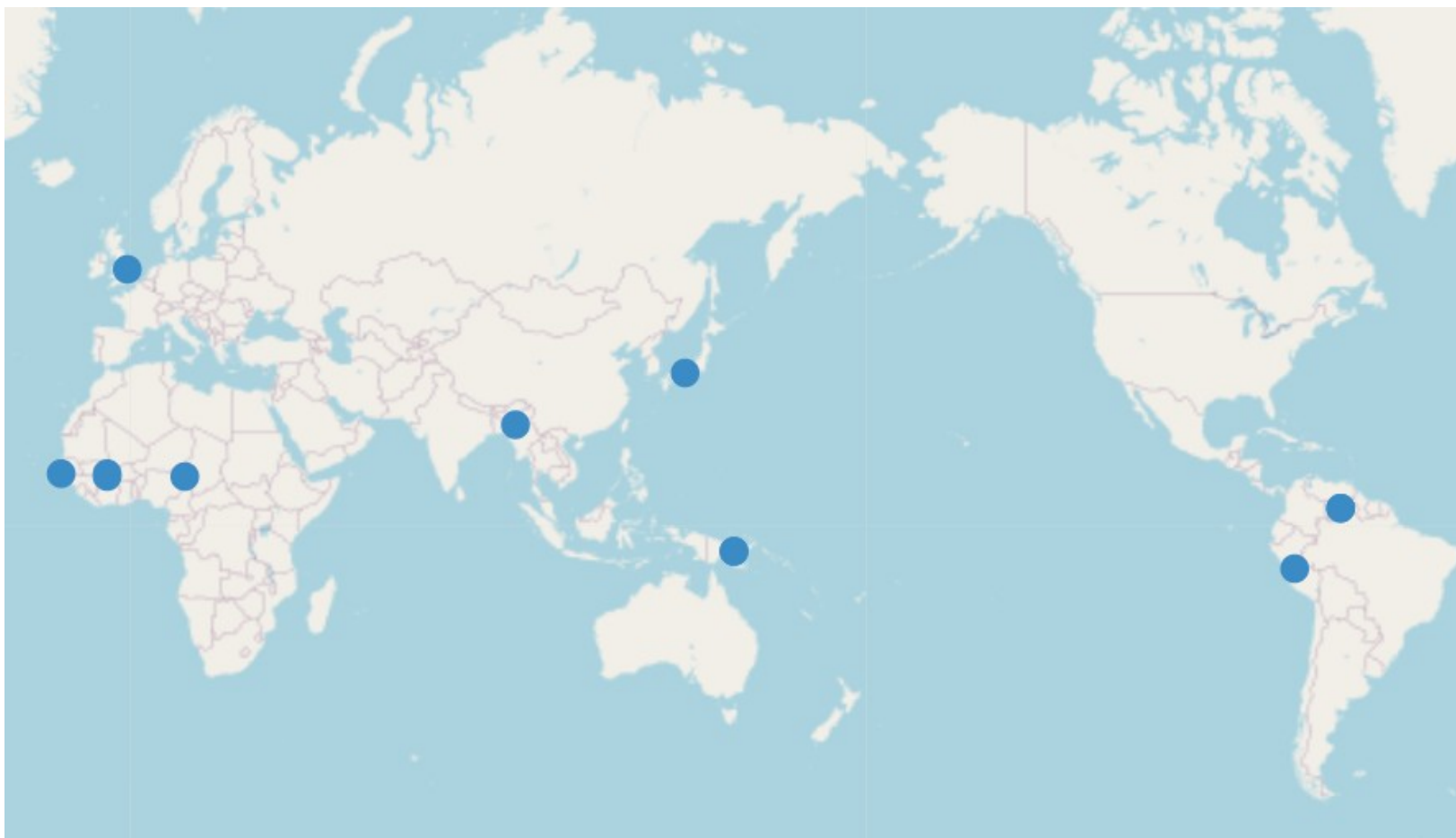
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Map created with Lingtypology, Moroz (2017)

3.6. Syntactic/semantic conditioning

The orientation of the affix is determined by syntactic or semantic properties of the construction its hosting word occurs in.

- Shouldn't all such cases be recast in terms of paradigmatic features?
- Possibly, but still they look different from the cases discussed in 3.3.
- Depends on point of view.

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- Possibly, but still they look different from the cases discussed in 3.3.
- Depends on the basic assumptions and definitions.

3.6. Syntactic/semantic conditioning

French subject indexes: prefixes in declarative, suffixes in interrogative clauses (+ other cases of inversion).

- (12) a. *Il travaillait* ‘He was working’
b. *Travaillait-il?* ‘Was he working?’
c. *Où travaillait-il?* ‘Where was he working?’

“Declarative” vs. “interrogative” feature signalled by the position of the subject marker?

Cf. Auger 1994, Bonami & Boyé 2007, Culbertson 2010 on affixal status.

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Gyumri Armenian indicative marker (Bezrukov, Dolatian 2020):

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Gyumri Armenian indicative marker (Bezrukov, Dolatian 2020):

prefix	suffix
habitual	progressive
realis	irrealis
preverbal nuclear stress	no preverbal nuclear stress
narrow argument focus	broad focus

3.6. Syntactic/semantic conditioning

Gyumri Armenian (Bezrukov, Dolatian 2020: 3-5):

- (13)a. *šun-ə* *vazze-gə* progressive
dog-DEF run-IND
'The dog is running.'
- b. *šun-ə* *kə-vazze* habitual
dog-DEF IND-run
'The dog (habitually) runs.'

3.6. Syntactic/semantic conditioning

Gyumri Armenian (Bezrukov, Dolatian 2020: 3-5):

- (13)a. *šun-ə* *vazze-gə* broad focus
dog-DEF run-IND
'The dog is running.'
- b. *šun-ə* *kə-vazze* narrow focus
dog-DEF IND-run
'The dog (habitually) runs. / The DOG is running.'

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Gyumri Armenian (Bezrukov, Dolatian 2020: 3-5):

(13)a. *šun-ə* *vazze-gə* no preverbal stress
dog-DEF run-IND
'The dog is running.'

c. *šun-ə* *tun* *kə-vazze* preverbal stress
dog-DEF home IND-run
'The dog is running home.'

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dog-DEF run-IND
'The dog is running.'
- c. *šun-ə* *tun* *kə-vazze*
dog-DEF home IND-run
'The dog is running home.'

Which feature(s) determine affix orientation?

3.6. Syntactic/semantic conditioning

Ut-Ma'in (Atlantic-Congo, Nigeria; Paterson 2019: 104) gender markers: suffixed to the noun in some syntactic environments and prefixed in others.

- (13)a. *móŋgòr-tə* *àzgə-s:-tə* subject
mango.fruit-C6 pour-ITR-PRF
'Mango fruit rolled out (of the basket).'
- b. *wā* *ká:-n* *ḡt-móŋgòr* object
C1.SBJ pluck-DIST C6-mango.fruit
'He picked mango fruits.'

C – gender marker, DIST – distal, ITR – intransitive, PRF – perfect

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C – gender marker

NOT a subject vs. object
 distinction!

PRF – perfect

3.6. Syntactic/semantic conditioning

Ut-Ma'in gender markers (Paterson 2019: 59-61):

prefixes	suffixes
citation form	modified by an adjective, definite marker, possessive pronoun or relative clause
modified by a numeral	
unmodified object	unmodified subject
modifier of another noun	
object of adpositions	

3.6. Syntactic/semantic conditioning

Ut-Ma'in gender markers (Paterson 2019: 59-61):

prefixes	suffixes
citation form	modified by an adjective,
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What kind of a morphosyntactic feature could the orientation of Ut-Ma'in gender markers be associated with?

3.6. Syntactic/semantic conditioning

Xincan person markers again (Rogers 2010: 176-186), but now with nouns:

- suffixes in inalienable possession
- prefixes in alienable possession
- not a purely lexical distinction, since some nouns allow alternative construal

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Guazacapán (Xincan; Rogers 2010: 178, 182, 185)

- (15) a. *uxti-ka'* 'your spouse's parents' (inalienable)
b. *ka-xuxi* 'your beard' (alienable)
- (16) a. *mak'u-ka'* 'your house' (you earned it from
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b. *ka-maku* 'your house'

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Map created with Lingtypology, Moroz (2017)

3.7. Free variation?

Yuqui (Tupi-Guarani, Bolivia; Villafañe 2004: 168; van Gijn & Zúñiga 2014: 152): the focus marker and the past tense marker occur either suffixally or prefixally in apparently free variation:

(17) a. *yagua* *bia-ño-ke* *yukia*
jaguar man-FOC-PST 3sg.kill
'The man killed the jaguar.'

b. *so-natut-ĩ* *ño-ke-bia* *u*
meat-EMPH-EMPH FOC-PST-man 3SG.eat
'The people ate a lot of meat.'

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3. Typology: summary

- Some of the types are less clear-cut than others.
- Some ambifixes show mixed and transitional types of conditioning.
- Still, it is remarkable that orientation of an affix with respect to the root can depend on such a wide range of factors (even in the same language).

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- Still, it is remarkable that orientation of an affix with respect to the root can depend on such a wide range of factors (even in the same language).

Roadmap

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4. Diachronic speculations

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- Still, at least three pathways to ambifixation can already be discerned:
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4.1. Clitics > ambifixes

- Romance and Balkan Slavic object markers:
unstressed pronouns →
 Wackernagel (second position) enclitics →
 adverbial clitics subject to Tobler-Mussafia law
 (“no clitics in first position of the clause”) →
 ambifixes whose position wrt verb
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- Benacchio 1988, Pancheva 2005 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)

4.1. Clitics > ambifixes

stage 1 (BCMS): $X=\text{om} (Y) V \sim V=\text{om} X$

stage 2 (Bulgarian): $X=\text{om} (*Y) V Y \sim V=\text{om} X$

- In the transition from stage 1 to stage 2 clitics become verb-adjacent.
- A precondition for this is a statistically significant share of verb-adjacent clitics already at stage 1 (Benacchio 1988: 466; Pancheva 2006: 151-2; Bennett 2006; Pescarini 2021: Ch. 7).

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- 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 1987: 269-270, 278; Bennett 2006; Russi 2008: 78-9).

4.2. 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.
- The few examples I am aware of come from the languages of the Caucasus, but I am sure that this pathway is attested more broadly.
- Cf. Kuryłowicz (1964: 171–178), Pinault (1995) on Indo-European spatial adverbs developing into adpositions and preverbs.

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Abkhaz (Northwest Caucasian, Hewitt 1979: 114)

instrumental:

- (18)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,
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'I hit him with the/a hammer.'
(incorporation > applicative prefix)

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4.3. Univerbation in counterposition

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

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

4.3. Univerbation in counterposition

Ono (Trans-New-Guinea > Finisterre-Huon, New Guinea; Wacke 1930-31: 174, 178), cf. Suter (2012, 2018) for a comparative and historical perspective.

- A limited number of verbs take object prefixes.
- Two of such verbs, *-an-* ‘see’ and *-in-* ‘give’, productively suffix to non-inflected verbs and serve as markers of P and R indexing.

4.3. Univerbation in counterposition

Ono (Wacke 1930-31: 174-5, 178-9), present tense 3Sg subject:

	'see'	'protect'
1Sg	<i>n-an-maike</i>	<i>ware-nan-maike</i>
2Sg	<i>g-an-maike</i>	<i>ware-gan-maike</i>
1Pl	<i>ŋ-on-maike</i>	<i>ware-ŋon-maike</i>

4.3. Univerbation in counterposition

Ono (Wacke 1930-31: 174-5, 178-9), present tense 3Sg subject:

	'give'	'cook for smb'
1Sg	<i>n-in-maike</i>	<i>mire-nin-maike</i>
2Sg	<i>g-in-maike</i>	<i>mire-gin-maike</i>
1Pl	<i>ŋe-bon-maike</i>	<i>mire-ŋebon-maike</i>

4.3. Univerbation in counterposition

- In nominals:

No doubtless examples yet, but nominal gender suffixes in a number of Niger-Congo languages with generally prefixing gender marking (e.g. [Fula](#), Mc Laughlin 2015, or [Akebu](#), Makeeva & Shluinsky 2018) might stem from encliticised pronouns, see Creissels (to appear: fn 11) for this scenario.

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- Ambifixes do not seem to be an extremely rare phenomenon cross-linguistically, although they are distributed quite unevenly.
 - Is there any correlation with other characteristics of morphology (e.g., prefixing, absence of fusion, affix invariance, etc.)?

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5. Summary and outlook

- A remarkable degree of cross-linguistic variation is observed in the factors that determine the orientation of ambifixes, from phonotactics through various types of morphology all the way to semantics and syntax, with many intermediate cases in between.
 - What principles influence which explanation we choose?
 - What do various types of ambifixation tell us about the nature of morphology and its interfaces?

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 - Why do some ambifixes remain while others turn into simple prefixes or suffixes?
- Much more remains to be investigated.

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Thank-you for your-attention!

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