TyLex 2017, HSE Voronovo

Targeting the role of language contact in typological studies

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The structure of this course

1. The importance of language contact research in typology, and typological approaches to language contact
2. Case studies, focusing on the influence of language contact on lexicon

The effects of language contact are observable everywhere

Hebrew (Semitic)

tafsik	*laasot*	***balagan***
stop	do	mess

ve-tavi	t-a-**tʃimidan**,	**ya**	**ahabal**!
and-bring	acc-def-bag,	voc	idiot

Domari (Indo-European)

baʕd *wars-ak-ki*
after year-INDEF-ABL
'after a year' (< Arabic *baʕd* 'after')

Otomí (Otomanguean)

'b̲eto	*'b̲eta*
'grandson'	'granddaughter'

Yiddish (Indo-European)

xavejr-im	‘friends’ (< Hebrew)
doktojr-im	‘doctors’

Three Meso-American languages

Náhuatl (Aztecan; Stolz & Stolz 2001: 1544)

tepotz-	no-	tepotz-	taj
'shoulder'	POSS.1.SG-	shoulder-	LOC
	'behind me'		

Ch'ol (Penutian; Stolz & Stolz 2001: 1544)

pat	t-	i'	pat	mesa
'shoulder'	LOC-	POSS.3	shoulder	table
	'behind the table'			

Zapotec (Oto-Manguean; Stolz & Stolz 2001: 1544)

cožə'	cozžə'	ya'an
'shoulder'	shoulder	mountain
	'behind the mountain'	

Bukharan Arabic

sakina	*xadā-ha*
knife	(he) took-it

'He took a knife.' (59, 30)

(11)

xilāf	*li-gidday*	*xubza*	*anṭ-ū-a*
then	to-beggar	bread	gave-him-it

'Then he gave the beggar a piece of bread.' (56, 6)

Kurmanji

haywan [ħajwɑːn] ‘animal’

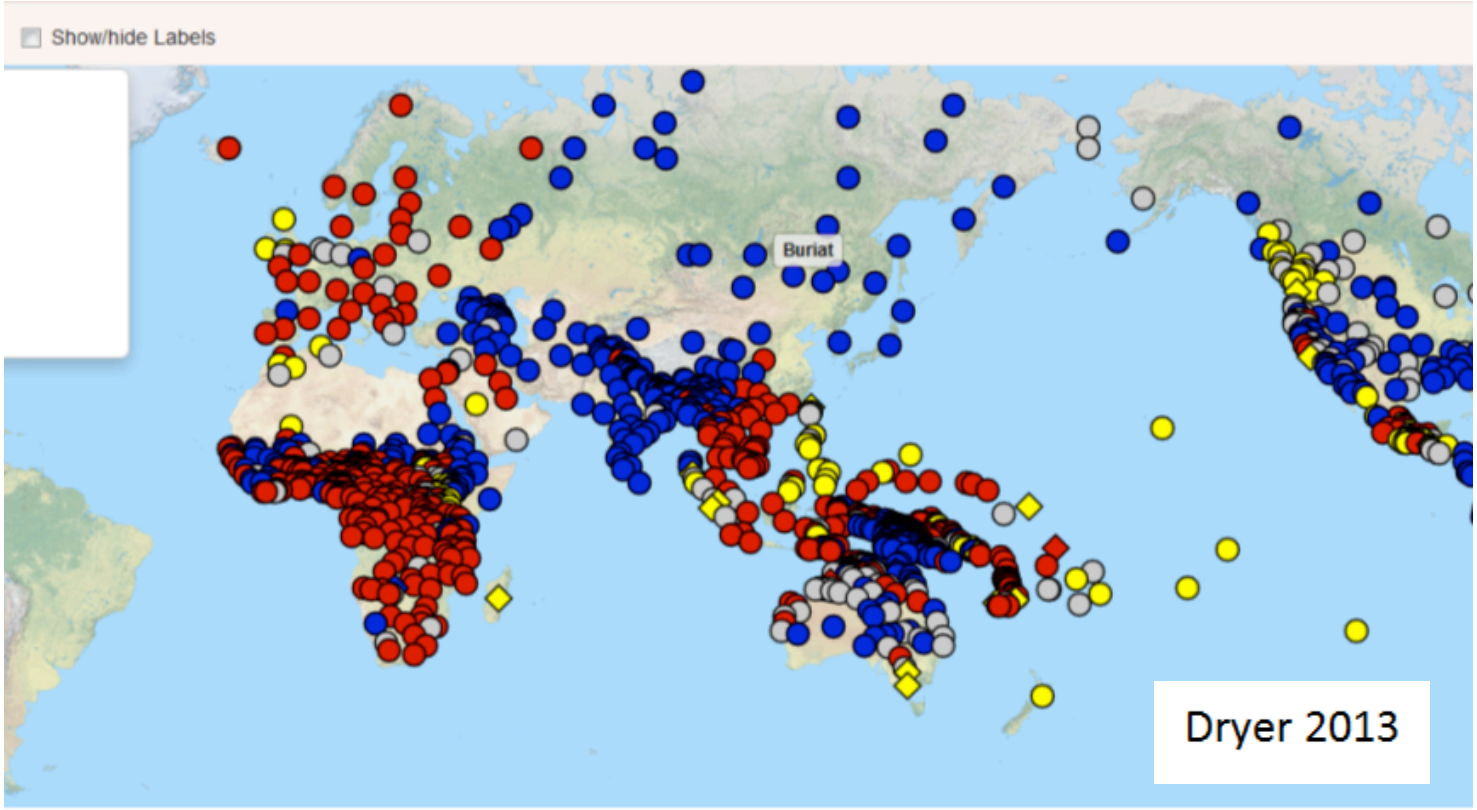
All typologists

Have to be concerned with language contact, at least in some way.

Language contact

1. Can lead to changes that make languages more similar to each other.
2. Can lead to changes that make languages more different from each other.

Basic word order



This is important

because typologists are interested in generalizations about cross-linguistic **diversity**.

So we want to know about the sources for cross-linguistic similarities and differences.

There may be many types of sources

- Domain-general cognitive biases or preferences
- Language-specific cognitive biases or preferences (‘Universal Grammar’)
- Specific features of human anatomy
- Social and cultural factors
- Environmental factors
- Language-external events of human history (migrations, conquest, trade, etc.)

Classical Greenbergian typology

Typically aims to establish cross-linguistic generalizations on the basis of language samples.

Samples are often balanced or stratified with respect to area (as a proxy for contact-induced similarity) and for family (as a proxy for inheritance-based similarity).

Typologists are often concerned about how to deal with *areal biases* (Bell 1978, Bakker 2011).

However

There are several problems with the classical approach.

The main problem is the representativeness of the current population of the world's languages vis-a-vis 'natural human language' in general.

Moreover, it has been claimed that there are not enough genetically- and areally-independent cases to allow statistical testing of universals (Piantadosi & Gibson 2013).

As a result

It has been argued that inheritance and areality (as a proxy for contact-induced similarity) should not be treated as confounds.

Rather, we should try to target them **directly** in typological research (e.g., Nichols 1992, 1998; Bickel 2007, 2012, 2015).

Distributional Typology

Distributional Typology – answering the ‘what’s where why?’ question, an interest in explaining past and present linguistic diversity in its own right (Bickel 2007, 2015).

Two methods in Distributional Typology

The **Family Bias Method** (Bickel 2012) aims to estimate probabilities of change (innovation vs retention) in individual families with respect to a particular property.

Predictive Areality Theory (Bickel & Nichols 2006) aims to predict linguistic properties for geographical areas established on extra-linguistic grounds.

The Family Bias Method: a case study

Two competing causal theories for the apparent association of distinct case marking for A and P in transitive clauses with verb-final word order.

1. The presence of A≠P case is driven by V-final word order (Greenberg 1963, Siewierska 1996, Dryer 2002, Hawkins 2004 etc.)

2. The presence of A≠P case is driven by diffusion in the wake of the Eurasian spreads.

'Functional' (1) vs. 'event-based' (2) theories according to Bickel - we'll come back to this later.

Functional triggers (Bickel 2017)

Functional triggers are grounded in the biological/cognitive or social/communicative conditions of language, such as specific processing preferences (e.g. Hawkins, 2004; Christiansen & Chater, 2008) or specific sociolinguistic constellations (e.g. Trudgill, 2011; Lupyan & Dale, 2010) that systematically bias the way linguistic structures evolve.

Functional triggers

The defining property of functional triggers is that they affect transition probabilities universally, independent of concrete historical events. For example, if it is true that processing principles cause verb-final word order to associate with dependent marking, we expect this to cause a higher probability of languages changing towards than away from this association, and this transition probability is the same in any language, at any time.

Event-based triggers

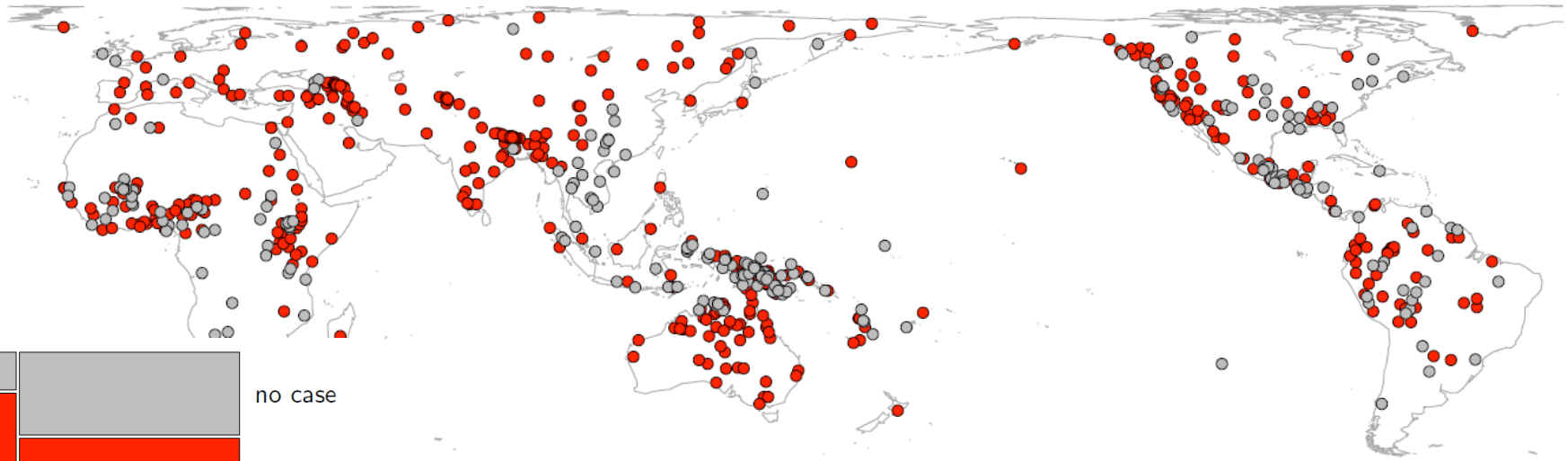
Event-based triggers are tied to single historical events, leading to idiosyncratic, once-off changes.

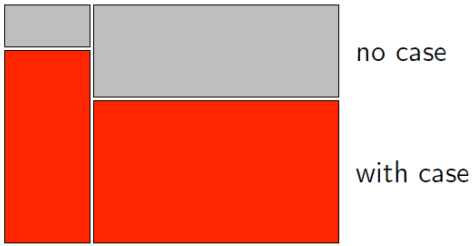
- Relative pronouns
- Differential Object Marking
- ‘Have’-perfects

Cross-linguistically rare – no good evidence for functional triggers – but spread due to intensive language contact events.

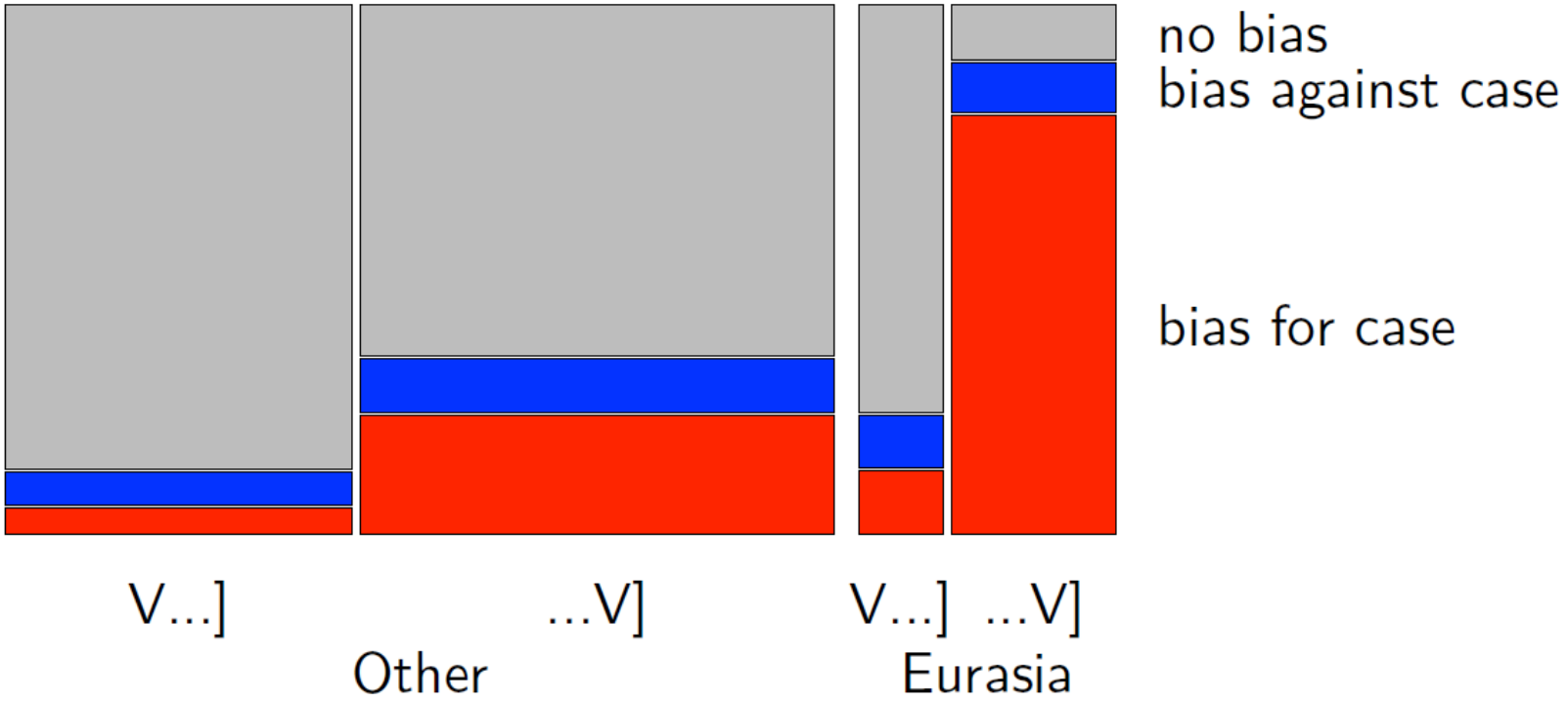
The global picture

Data from AUTOTYP (Witzlack-Makarevich et al. 2011+) on case and WALS (Dryer 2005) on word order: $N = 489$





Next step: estimate biases in families



Interpretation of results

Bias **for case** vs. **against case** is determined both

- by the contact history of Eurasia: case tends to be better preserved or (re-)created in Eurasia (AREA × BIAS TYPE, p=.034)
- by processing principles: case tends to be better preserved or (re-)created in v-final families (ORDER × BIAS TYPE, p=.027)

These effects are independent of each other (three-way interaction is n.s.)

Diversification vs. **stability** is determined both

- by the contact history of Eurasia, but only in v-final groups (three-way interaction, $p=.011$): v-final groups diversify less in Eurasia than elsewhere (AREA × DIVERSITY, $p<.001$), no such effect in non-final groups
- by processing principles: v-final languages diversify less than non-v-final languages (factorial analysis across areas, both $p<.001$)

More broadly

Distributions of language structures in the world's languages may have multiple sources, which may be independent of each other.

- 'Functional' causal theories may be shown to leave statistical signals.
- But they may fail to explain distributions on their own (we often have disconfirming cases).
- 'Event-based' causal theories - which are essentially if not solely about language contact - are often part of the picture.

A third family of approaches

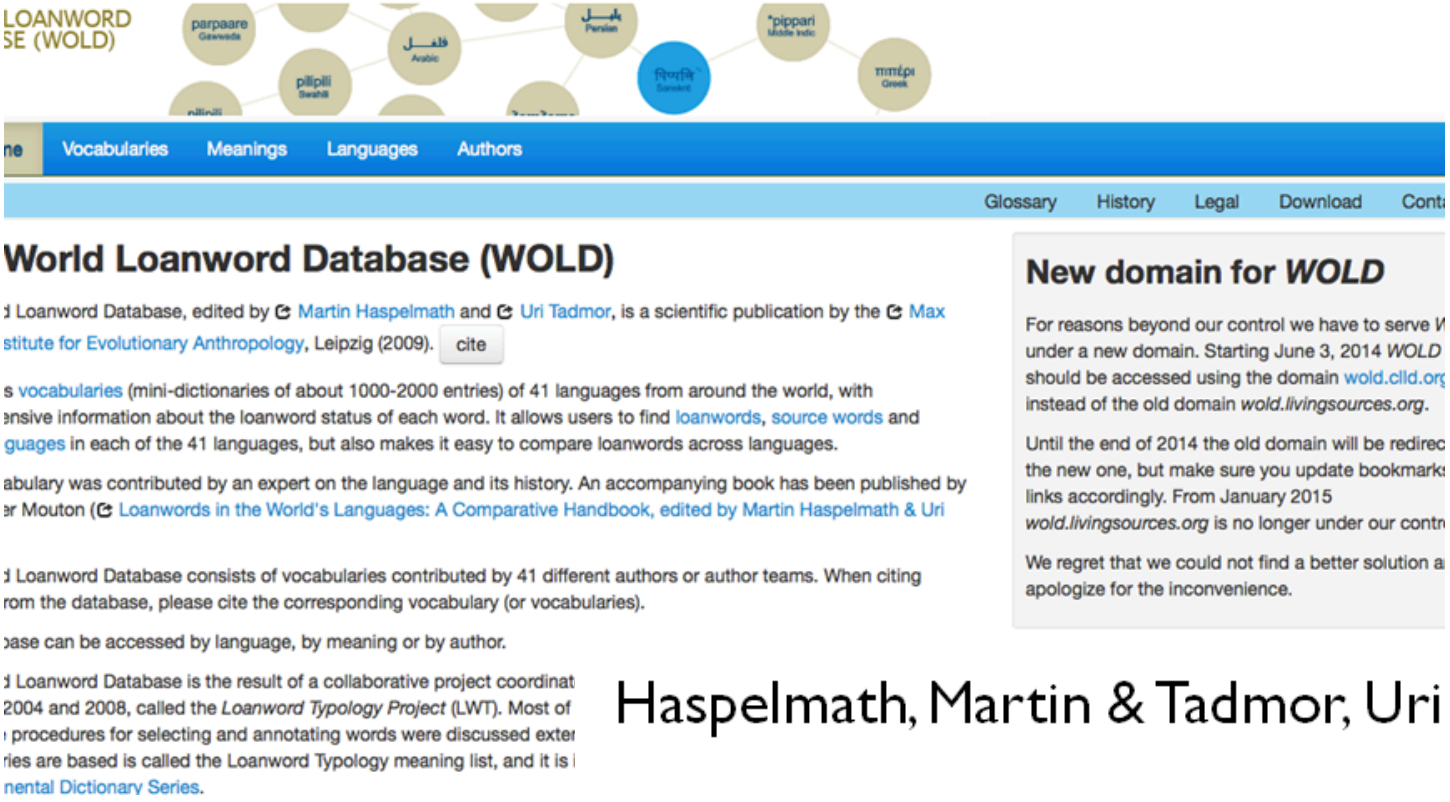
Studying the typology of contact-induced change **directly**.

Yaron Matras
Jeanette Sakel
(Editors)

Grammatical Borrowing in Cross-Linguistic Perspective

Mouton
de Gruyter

The World Loanword Database (WOLD)



Haspelmath, Martin & Tadmor, Uri (eds.) 2009.

The Atlas of Pidgin and Creole Structures

Welcome to *APiCS Online*

Fishing boats: Fishermen selling their catch at Abandze, Ghana, the site of the first British trading station on the Gold Coast, Fort Kormantin, established in 1632. Photograph by Thorsten Brato, 2008.

This web site contains supporting electronic material for the *Atlas of Pidgin and Creole L*
University Press. *APiCS* shows comparable synchronic data on the grammatical and lexic
language set contains not only the most widely studied Atlantic and Indian Ocean creoles
South Asia, Southeast Asia, Melanesia and Australia, including some extinct varieties, an

APiCS Online is a separate publication, edited by Susanne Maria Michaelis, Philippe Mau
possible by support from the Deutsche Forschungsgemeinschaft and the Max Planck Ins

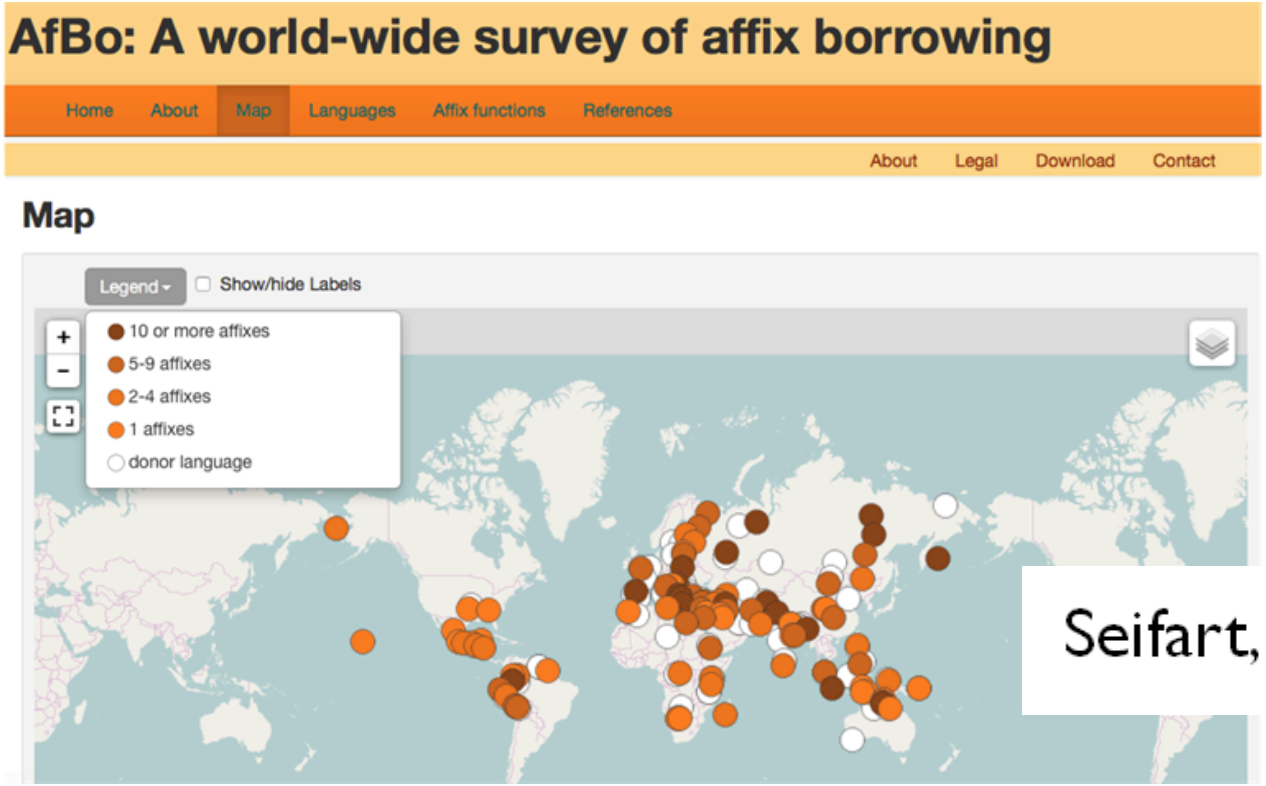
APiCS Online contains information on 76 languages and 130 structural features, which w
examples illustrating the features and feature values. In addition, *APiCS Online* is design
Atlas of Language Structures).

APiCS Online is an edited database consisting of 76 datasets which should be regarded as separate publications, like chapters of an edited volume. These datasets

> Salikoko S. Mufwene. 2013. Kikongo-Kituba structure dataset.
> In: Michaelis, Susanne Maria & Maurer, Philippe & Haspelmath, Martin & Huber, Magnus (eds.)
> Atlas of Pidgin and Creole Language Structures Online.

Michaelis, Susanne Maria & Maurer, Philippe & Haspelmath, Martin & Huber, Magnus (eds.) 2013.

A world-wide survey of affix borrowing



Seifart, Frank. 2013.

A worldwide survey of adposition borrowing

The Hebrew University of Jerusalem האוניברסיטה העברית בירושלים

Home Page About Login

ta Set, Out Of Total 105 Records

Recipient Language Meaning	Recipient Language Lemma Category	Recipient Language	Recipient Language Family	Recipient Language Order	Recipient Language Area	Donor Language	Donor Language Family	Donor Language Lemma	Donor Language Meaning	Donor Language Order	Donor Language Area
around	Prep	Neo-Aramaic (Southern Persian-Azeri Jewish)	Afro-Asiatic		Eurasia	Persian	Indo-European	atrāf	around		Eurasia
until	**Prep**	**Neo-Aramaic (Southern Persian-Azeri Jewish)**	**Afro-Asiatic**		**Eurasia**	**Kurdish (Central)**	**Indo-European**	**ḥeta\ heta\ hatā**	**until, up to**		**Eurasia**
around	Prep	Neo-Aramaic (Southern Persian-Azeri Jewish)	Afro-Asiatic		Eurasia	Persian	Indo-European	čār atrāf	four sides		Eurasia
until	Prep	Neo-Aramaic (Northern Persian-Azeri Jewish)	Afro-Asiatic		Eurasia	Kurdish (Central)	Indo-European	ḥeta\ heta\ hatā	until, up to		Eurasia
to	Prep	Guaraní	Tupian		South America	Spanish	Indo-European	a	to		Eurasia

	#attat #matéwa g-do olka, #darwazit olka dwiqálu "by the time he arrived in that city, they had shut the city gate", mar peši galox #atta ezan adjan "let them stay with you until I go and come back" (more exx. in G
	May not take personal pronouns. In relation to nouns, numerals and demonstrative pronouns (or clauses apparently), may connect directly or, in archaic style and deliberate speech, through the relational suffixes -t
	Garbell 1965b: 60-62, 98, 298
rence:	Garbell 1965b: 60-62, 98, 298
	Michael L. Chyet (2003): 274; Kurdoev K (1960): 344; Wheeler M. Thackston (2006): 190; Wahby, Taufiq & CJ Edmonds (1966): 64

What these studies have in common

The aim of **directly** targeting the typology of contact-induced change on an empirical cross-linguistic basis, in order to make generalizations.

A little more background

Some common terminological distinctions

- Matter vs. pattern replication (Matras & Sakel 2007 and subsequent)
- Global vs. selective code-copying (Johanson 1992 and subsequent)

Matter replication or **global code-copying** - the copying of items with their phonological substance.

Pattern replication or **selective code-copying** - the copying of some aspect of a donor language item, whether meaning, distribution, combinability, or frequency, using pre-existing material from the stock of the target language.

Lexical vs. grammatical borrowing

These distinctions are orthogonal to the distinction between ‘lexical’ and ‘grammatical’ borrowing, because:

1. Grammatical borrowing is often considered to include matter replication involving items with ‘grammatical’ meaning (e.g., conjunctions, articles, adpositions, inflectional or derivational affixes).

2. Lexical borrowing generally involves the integration of copied material into the grammatical systems of the target language, so there is plenty of room for contact-induced change via lexical borrowing.

3. Plus, as we will see (here and in Maria Koptjevskaja-Tamm’s course), lexical items can drag along aspects of their distributions in selective ways.

Borrowability hierarchies/scales

content item > function word > agglutinating affix > fusional affix (Field 2002)

nouns, conjunctions > verbs > discourse markers > adjectives > interjections > adverbs > other particles, adpositions > numerals > pronouns > derivational affixes > inflectional affixes (Matras 2007)

NOUNS > ADJECTIVES > VERBS > COORDINATING CONJUNCTIONS > ADPOSITIONS > QUANTIFIERS > DETERMINERS > FREE PRONOUNS > CLITIC PRONOUNS > SUBORDINATING CONJUNCTIONS (Muyskens (2008: 177) partly based on Haugen (1950).

Different readings of these scales

- **Quantitative** readings imply that items to the items to the left are borrowed in greater numbers than those to the right
- **Temporal** readings that items to the left are borrowed earlier than items to the right
- **Implicational** readings that items to the right entail that items to the left are also borrowed
- **Frequency** readings that items to the left are borrowed more frequently than items to the right. (Haspelmath 2008)

Importantly

As far as we know, these hierarchies are epiphenomena

They are not explanations. Rather, insofar as they are accurate, they are generalizations that require explanations.

Finally, very few of the proposed hierarchies are based on extensive cross-linguistic databases.

Thomason & Kaufman (1986)

Casual contact	Category 1	content words
↓	Category 2	function words, minor phonological features, lexical semantic features
	Category 3	adpositions, derivational suffixes, phonemes
	Category 4	word order, distinctive features in phonology, inflectional morphology
Intense contact	Category 5	significant typological disruption, phonetic changes

Matras (2009: 161)

Utilitarian hierarchies (context specialisation of donor language):

a. unique referents > general/core vocabulary
b. nouns > non-nouns
c. numerals in formal contexts > numerals in informal contexts
d. higher cardinal numerals > lower cardinal numerals
e. days of week > times of day

Some proposed universals about language contact

Moravcsik (1978)

Seven proposed universals of language contact.

Language Contact

EDITH A. MORAVCSIK

ABSTRACT

A general rationale of language contact studies is provided by showing how such studies contribute to the basic task of linguistic research. The substance and application of constraints on borrowing is discussed and some such constraints are proposed as consistent with all known facts.

1. LEXICON-FIRST

'No non-lexical property can be borrowed unless the borrower already includes borrowed lexical items from the same source language' (1978: 11).

Grammatical morphemes are not borrowed until after some lexical morphemes have been borrowed first.

1. LEXICON-FIRST

Allows for languages that have borrowed (1) both GRAMM and LEX, (2) only LEX but not GRAMM, (3) neither LEX nor GRAMM, and excludes (4) languages that have borrowed GRAMM but not LEX.

	+LEX	-LEX
+BOUND	y	n
-BOUND	y	y

2. INDIRECT BOUND MORPHEME BORROWING

'No member of a constituent class whose members do not serve as domains of accentuation can be included in the class of borrowed properties unless some members of another constituent class are also so included which do serve as domains of accentuation and which properly include the same members of the former class' (1978: 110).

This statement excludes cases where bound morphemes – clitics, affixes, and parts of compounds – are borrowed, but no free forms of which they are a part are borrowed (e.g., -*ette* of *kitchenette* exists only because *cigarette* and *statuette* were borrowed containing –*ette*).

2. INDIRECT BOUND MORPHEME BORROWING

Allows for languages that have borrowed (1) both BOUND and FREE, (2) only FREE but not BOUND, (3) neither FREE nor BOUND, and excludes (4) languages that have borrowed BOUND but not FREE.

	+BOUND	-BOUND
+FREE	y	y
-FREE	n	y

3. NOUNS FIRST

'No lexical item that is not a noun can belong to the class of properties borrowed from a language unless this class also includes at least one noun' (1978: 111).

3. NOUNS FIRST (OR: NOT WITHOUT NOUNS)

Allows for languages that have borrowed (1) both N and NON-N, (2) only N but not NON-N, (3) neither N nor NON-N, and excludes (4) languages that have borrowed NON-N but not N.

	+N	-NON-N
+NON-N	y	n
-NON-N	y	y

4. NO VERBS

'A lexical item whose meaning is verbal can never be included in the set of borrowed properties' (1978:111).

Verbs are not borrowed as verbs, but must be verbalized in some way in the recipient language.

5. DERIVATION BEFORE INFLECTION

No inflectional affixes can belong to the set of properties borrowed from a language unless one derivational affix also belongs to the set (1978: 112).

5. DERIVATION BEFORE INFLECTION

Allows for languages that have borrowed (1) both DER and INF, (2) only DER but not INF, (3) neither DER nor INF, and excludes (4) languages that have borrowed INF but not DER.

	+DER	-DER
+INF	y	n
-INF	y	y

6. LINEAR ORDER PRESERVATION

'A lexical item that is of the 'grammatical' type (which type includes at least conjunctions and adpositions) cannot be included in the set of properties borrowed from a language unless the rule that determines its linear order with respect to its head is also so included' (1978: 112)

6. Linear Order Preservation

Allows for languages that have borrowed (1) both ITEM and RULE, (2) only RULE but not ITEM, (3) neither ITEM nor RULE, and excludes (4) languages that have borrowed ITEM but not RULE.

	+ITEM	-ITEM
+RULE	y	y
-RULE	n	y

7. UNINFLECTED OVER INFLECTED

'Given a particular language, and given a particular constituent class such that at least some members of that class are not inflected in that language, if the language has borrowed lexical items that belong to that constituent class, at least some of these must also be uninflected' (1978: 113).

7. UNINFLECTED OVER INFLECTED

Excludes a language in which all borrowed members of a constituent class are inflected but not all native members are.

	+NATIVE INF	-NATIVE INF
+BORROWED INF	y	n
-BORROWED INF	y	y

Generalizations about contact as Greenbergian universals

- Linguists often try to 'save' universals from mean counter-examples.

- More importantly, Greenbergian universals are often 'explained' in terms of the coherence of linguistic systems ('branching,' 'head-dependent order,' etc.) or imaginary cognitive processes ('processing').

- But explanations are likely to be historical and complex.

Evaluating universals empirically: three case studies

1. The NO VERBS Principle
2. The INDIRECT BOUND MORPHEME BORROWING Principle
3. The LINEAR ORDER PRESERVATION Principle

1. No verbs

A Typology
of Verbal Borrowings

by

Jan Wohlgemuth

Major findings

1. Verbs can definitely be borrowed as verbs
2. A limited range of verb accommodation strategies
    1. Direct insertion of a verbal stem
    2. Indirect insertion (by means of a verbalizer)
    3. Light verbs
    4. Paradigm transfer (verb form borrowed in its entirety)

Light verb strategy

BOHAIRIC COPTIC < GREEK

a-f-er-klêronomin

PAST.AFF-3SG.M-do-inherit\INF[greek]

'He inherited….' (Gr. *klêronomein*)

Indirect insertion

HUNGARIAN < GERMAN

leiszt-ol

accomplish-VERBALIZER

'accomplish' (G. *leist-en*)

ful-el

ear-VERBALIZER

'listen hard'

Direct insertion

QUECHUA < SPANISH

balura-ni

value-1SG

'I value' (Sp. *valora-r*)

Paradigm transfer

ROMANI (AGIA VARVARA) < TURKISH (Bakker 2005: 9)

and o sxoljo ka siklos te okursun ta te jazarsun

in ART school FUT learn.2 COMP read.2SG and COMP write.2SG

'at school you will learn how to read and write'

The Loan Verb Integration Hierarchy

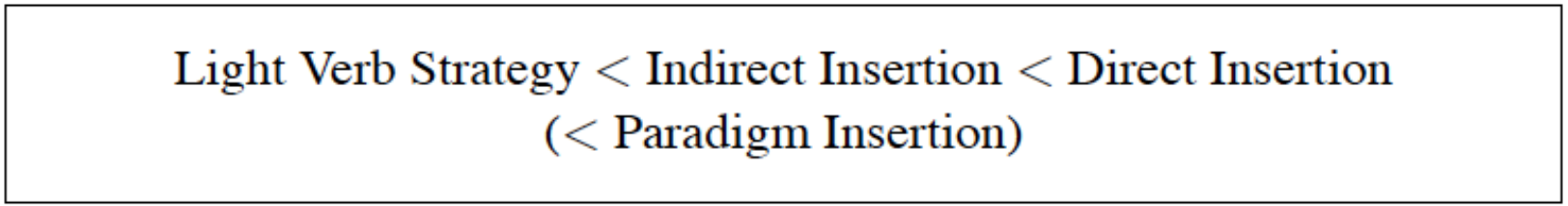


Figure 9. Loan Verb Integration Hierarchy

Non-trivial statistical universals

Prediction 1: Languages with a basic order of "dependent before head" will, with overwhelmingly more than chance frequency, use the Light Verb Strategy to accommodate borrowed verbs.

Prediction 2: Languages with a basic order of "head before dependent" will, with significantly greater than chance frequency, use the Direct Insertion strategy to accommodate borrowed verbs.

Figure 10. Two statistical universals of loan verb accommodation

But keep in mind

Linear order tends to pattern areally, due to inheritance or contact or both.

Is head-dependent order just a symptom of historical processes of change and/or retention?

Is the linguistic property just a proxy for other stuff?

Non-trivial statistical universals

Prediction 3:	If a language uses two accommodation strategies, it is very likely that one of these is Direct Insertion.
Prediction 4:	If a language uses more than two accommodation strategies, one of these is Direct Insertion.

Figure 11. Implications on multiple strategy use

The global picture

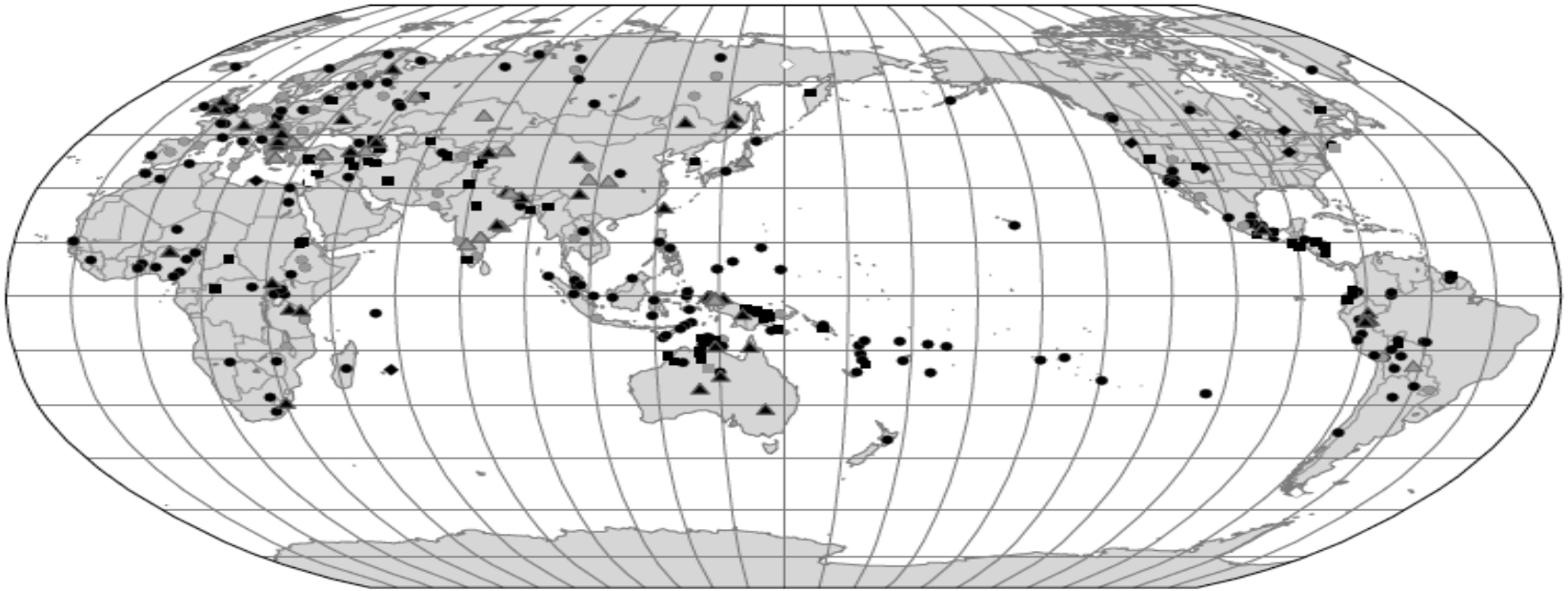


Figure 14. World map: Recipient languages

Direct Insertion

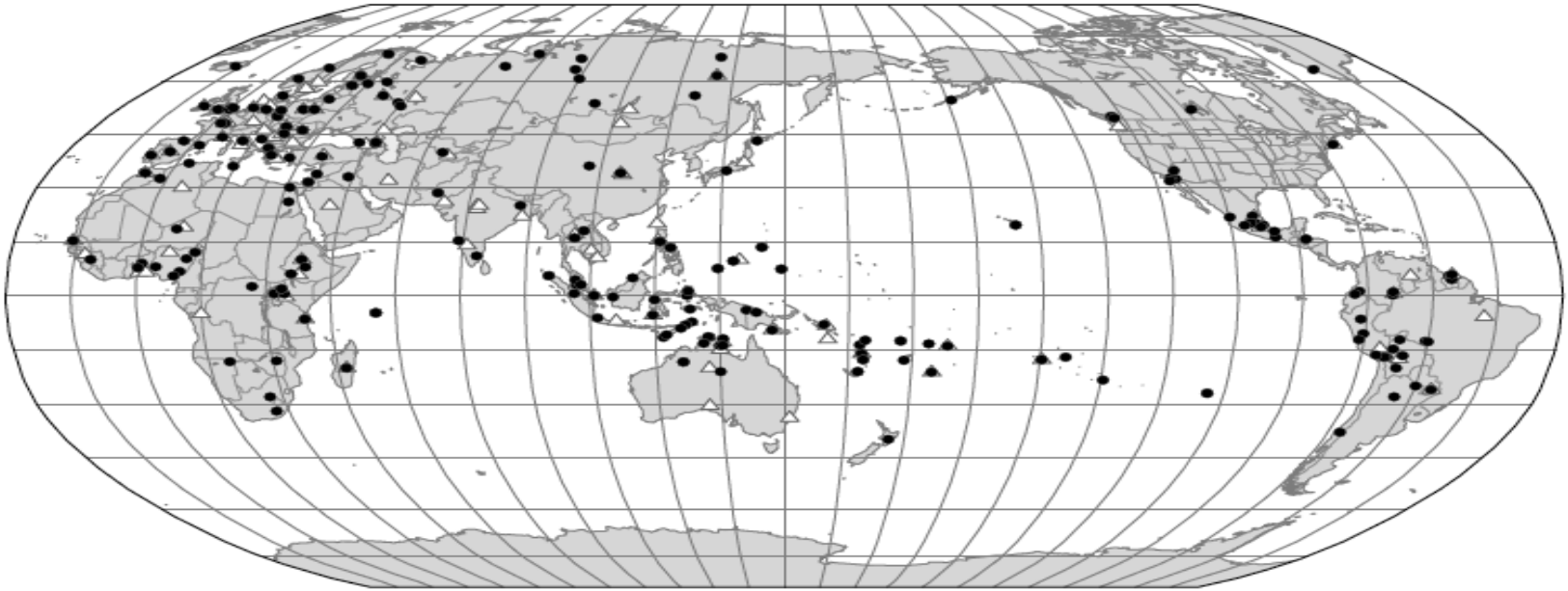


Figure 16. World map: Direct Insertion

Indirect Insertion

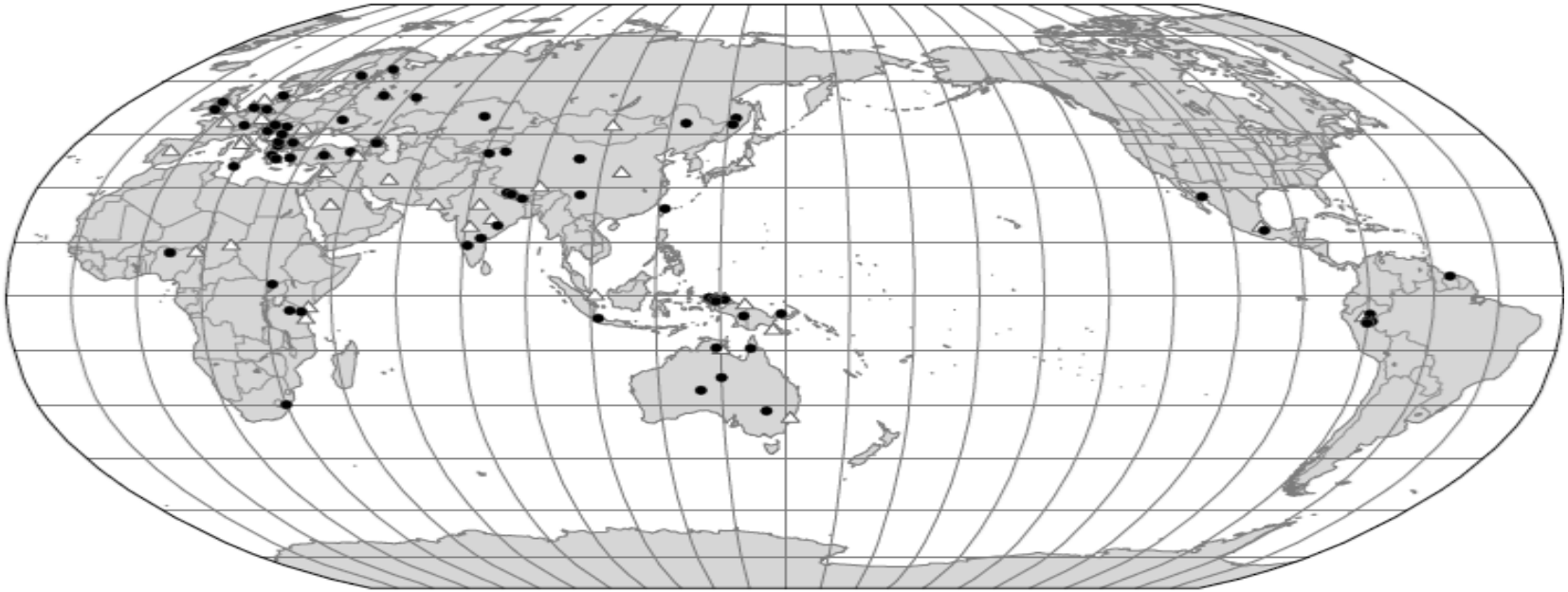


Figure 17. World map: Indirect Insertion

Light verb strategy

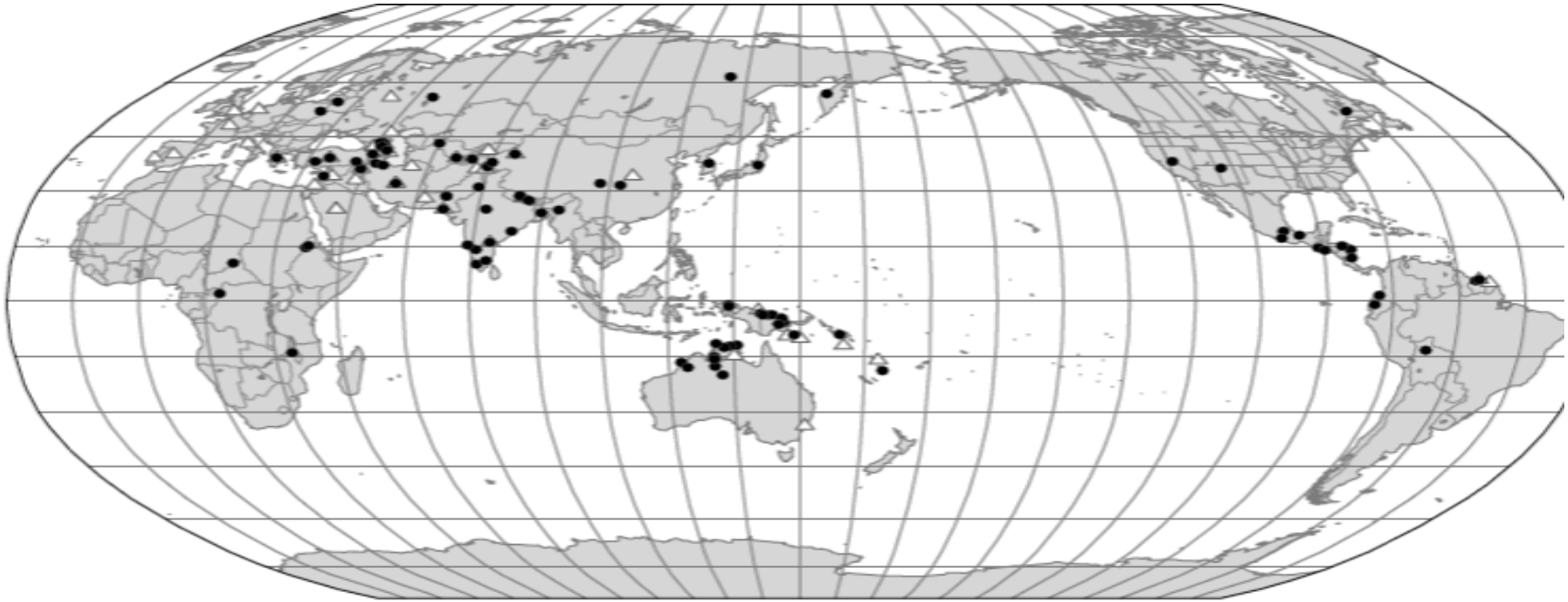


Figure 18. World map: Light Verb Strategy

Paradigm Insertion

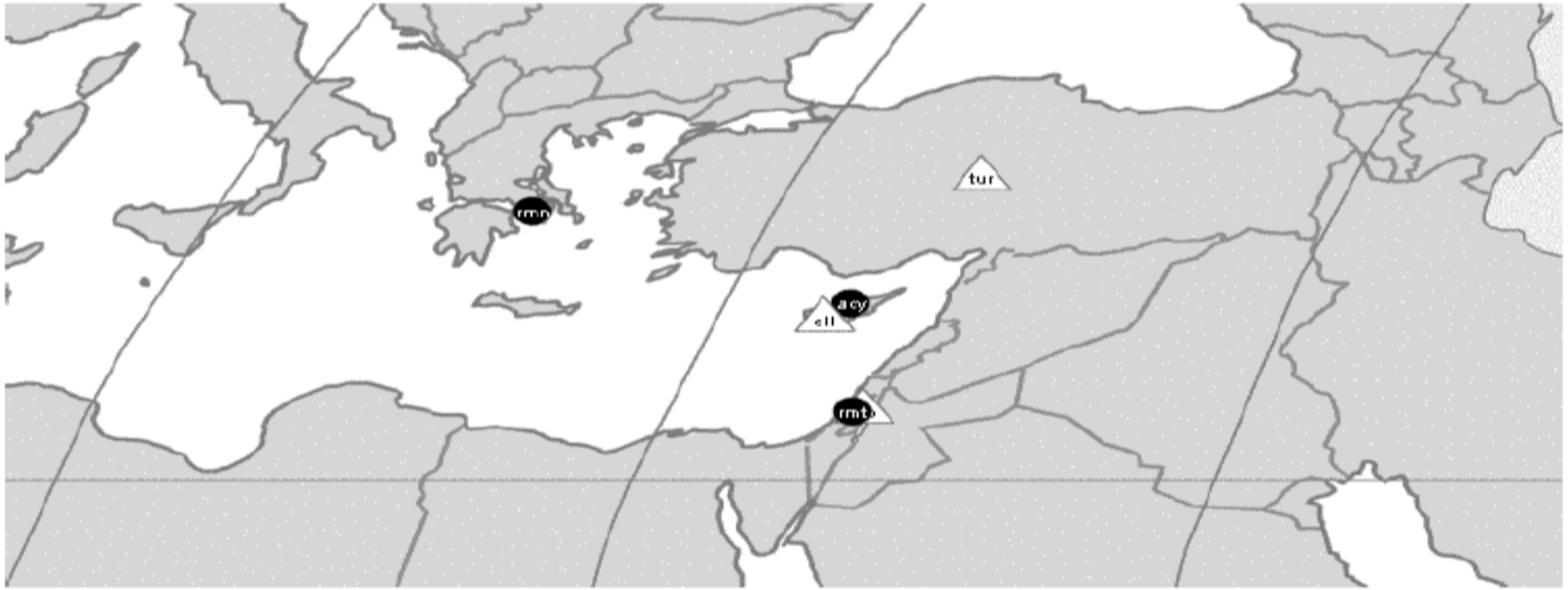


Figure 19. Map: Paradigm Insertion

Some patterns

Direct insertion is present everywhere, but especially in Southeast Asia, Oceania, and Africa. It is notably uncommon in Australia and New Guinea.

Indirect Insertion is especially common in Eurasia, particularly western Eurasia, where it is well above the global average. Very rare in N. America and in Africa.

Some patterns

Light verb strategy is most prominent in Australia and New Guinea, lowest frequency in Southeast Asia and Oceania.

Paradigm Insertion is found only in the Eastern Mediterranean.

The bottom line

Verbs can indeed be borrowed as verbs.

But many more interesting patterns were discovered along the way.

Importantly, in today's context, we see an areal effect in the preference for particular ways of integrating loan verbs.

2. INDIRECT BOUND MORPHEME BORROWING

How are bound morphemes borrowed?

Two scenarios (Seifart 2015).

DIRECT AND INDIRECT AFFIX BORROWING

FRANK SEIFART

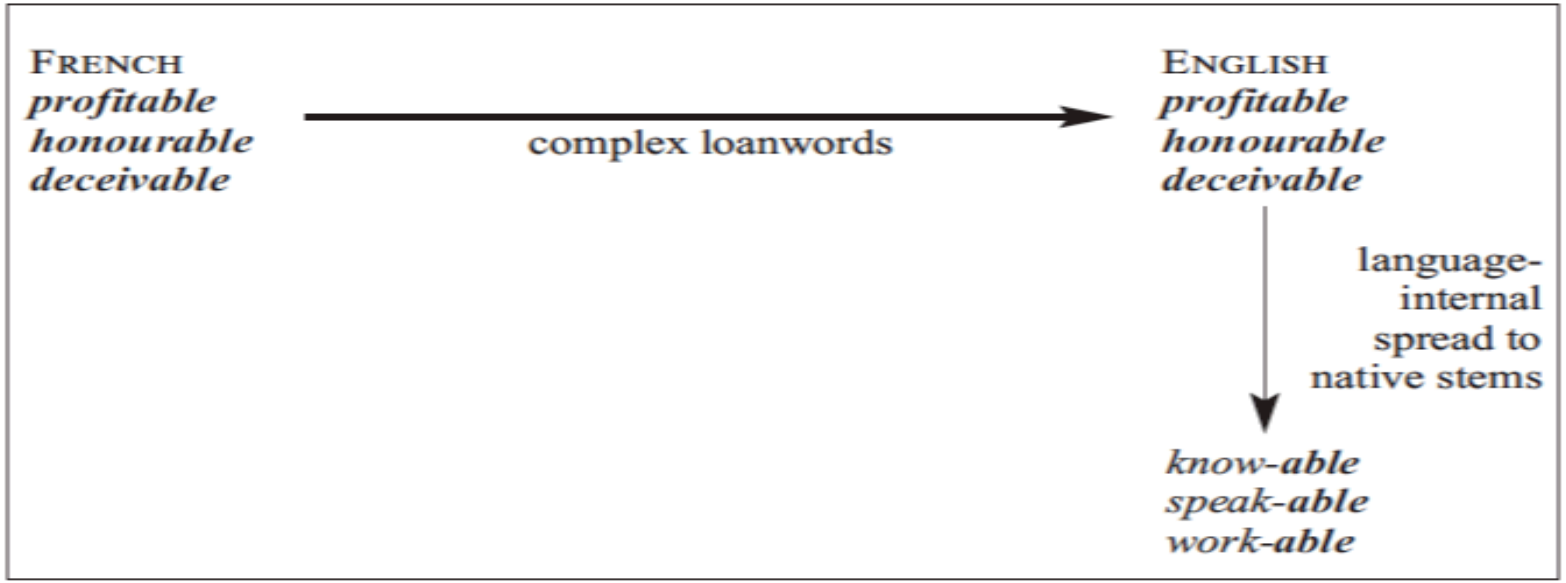
Max Planck Institute for Evolutionary Anthropology and
Amsterdam Center for Language and Communication

A widespread assumption in the language contact literature is that affixes are never borrowed directly, but only indirectly, that is, as part of complex loanwords. From such complex loanwords, affixes may eventually spread to native stems, creating hybrid formations, in a process of language-internal analogical extension. Direct borrowing is the extraction of an affix based on

a. Indirect Borrowing

‘First, a language borrows a number of complex loanwords containing an affix, and second possibly much later—these complex loanwords come to be analyzed within the recipient language, and eventually the affix becomes productively used on native stems’ (Seifart 2015: 511).

a. Indirect Borrowing

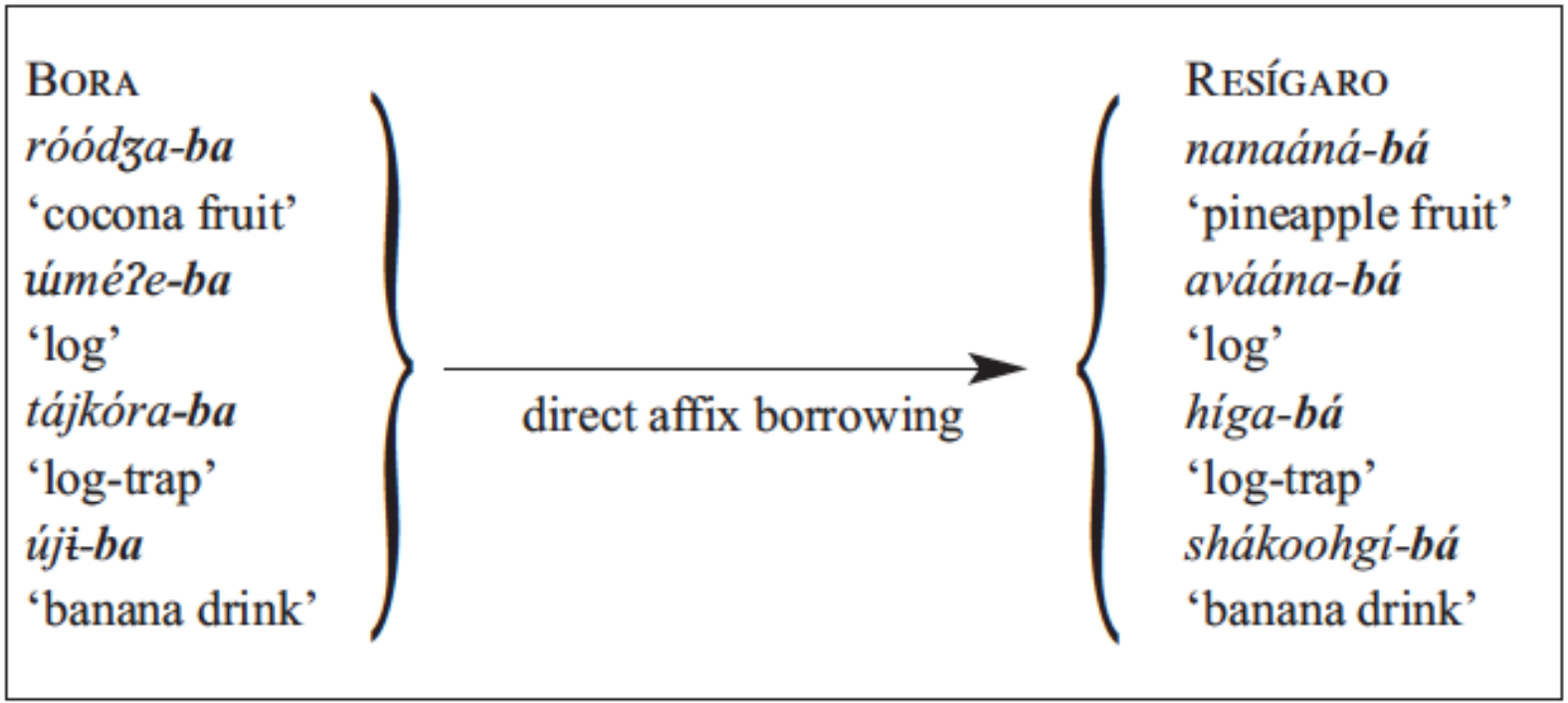


1. Indirect borrowing of Norman French *-able* into English (based on Dalton-Puffer 1996:183

b. Direct Borrowing

‘Under direct borrowing, an affix is recognized by speakers of the recipient language in their knowledge of the donor language and used on native stems as soon as it is borrowed, with no intermediate phase of occurring only in complex loanwords’ (Seifart 2015: 512).

b. Direct Borrowing



E 2. Direct borrowing of Bora -*ba* (classifier for fruits, logs, drinks, etc.) into Resí

Criteria for distinguishing

(1) CRITERIA FOR INDIRECT AFFIX BORROWING

- CRITERION 1: There is a set of complex loanwords containing a borrowed affix that have a common, recognizable meaning component, for example, a set of words that contain the same affix and that all denote properties or possibilities, such as *profitable*, *honorable*, *deceivable*, and so forth.
- CRITERION 2: There is a set of pairs of loanwords, one with and one without the affix, with constant, recognizable changes in meaning, for example, pairs of simplex loanwords and complex loanwords, where the complex loanwords denote the property or possibility of what the simplex loanwords express, for example, *profit–profitable*, *honor–honorable*, *deceive–deceivable*, and so forth.
- CRITERION 3: Within pairs of complex loanwords and corresponding simplex loanwords, complex loanwords have a lower token frequency than the corresponding simplex loanwords; for example, *profitable* is less fre-

Cases of direct borrowing

1. Visayan ordinal numeral marker *ika-* in Zamboangueño Chavacano, e.g., *ika-uno* ‘first’
2. Mongolic multiplicative numeral marker *–TA* in Sakha (Turkic), e.g., *ikki-te* ‘twice’
3. Bora (Boran) classifiers in Resígaro (Arawakan), e.g., *oɸíitsí-ga* ‘log trap’ (*oɸíitsi* ‘trap’).
4. Turkish *–qar* (*-kâr*) in Albanian, e.g., *mundqar* ‘someone who earns his daily bread with effort’ (*mund* ‘effort’).

Cases of indirect borrowing

1. Spanish *–ero* in Chinchay Quechua,e.g., *yanapero* ‘farmhand’ (*yanapay* ‘serve’).
2. Norman French *–age* in Middle English, e.g., *tollāğe* ’toll, tax’ (*tol(len)* ’to tax’).

A scale of directness of borrowing

DIRECTNESS OF BORROWING:	DIRECT BORROWING				INDIRECT BORROWING
COMPLEX LOANWORDS:	none	few	few	many	many
FREQUENT SIMPLEX LOANWORDS:	none	none	many	many	many
KNOWLEDGE OF DONOR LANGUAGE:	yes	yes	yes	yes	no
EXAMPLES:	Sakha *-TA*, Chavacano *ika-*	Resígaro *-ba, -ga*	Chavacano *maka-*	Quech. *-ero*, Engl. *-age*	?

FIGURE 3. A scale of directness of affix borrowing.

Additional factors

1. If an affix attaches directly to a closed class of stems (e.g., numerals or pronouns), it is likely to be directly borrowed.
2. Lexical borrowing may be inhibited for cultural reasons, which in turn might make direct borrowing more likely than indirect borrowing.

The bottom line

- Bound morphemes **can** be borrowed directly.
- The identification of some factors that facilitate (in)direct borrowing.

Summary for today

Three approaches to contact-induced change in typology:

1. Sample so as to attempt to avoid it.
2. Target it more or less directly through dense sampling of families/areas, and factor it into statistical analyses.
3. Target it directly by conducting typological studies of particular types of contact-induced change.

What's where why?

Linguists typically treat language change – and contact-induced change – as being universal, but **what if particular TYPES of change show areal biases themselves**?

Only cross-linguistic studies are likely to be able to answer this question.

Some avenues for future research

We have a few excellent databases and studies, but could use more of both. (There aren't many typologists, and most don't work much on language contact.)

Studies of verb borrowing, adposition borrowing, affix borrowing, loanwords in general, and a few others, but that's about it.

An invitation

Almost no work on the typology of contact-induced sound change.

We don’t even have a typological study of borrowed sounds, so we don’t know the most basic facts.

The typology of borrowed sounds database

Form description

Language *

Short answer text

Macro-area *

- Africa
- North America

Word order is commonly thought to be especially susceptible to contact-induced change, but we actually know next to nothing about this cross-linguistically.

A good way to start – small, dense areal databases

Sound systems
in Greater Kurdistan

Grossman & Nikolaev 2017+

Nearly everything remains to be done!