

# Diachronic pathways to constructional harmonies and what they mean for typological universals

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# Constructional harmonies

- **Constructional harmonies**: cross-linguistically, some construction A usually occurs when some construction B also occurs, whereas B can occur independently (implicational universals: **A → B**).
- In the functional-typological approach that originated from the work of Joseph Greenberg, these patterns are usually assumed to reflect **relative language preferences for B over A**.

### RelN → GN/ NG → NRel

- When relative clauses are preposed, possessors are usually also preposed, or, equivalently, when possessors are postposed, relative clauses are usually also postposed. Possessors, however, can be preposed also when relative clauses are postposed (Dryer 2007, among others).
- This has been explained by postulating **processing preferences** for preposed possessors over preposed relative clauses, and postposed relative clauses over postposed possessors (Hawkins 1994, 2004).

## Some examples

**Ergative case marking alignment for pronouns → ergative case marking alignment for nouns**

**Accusative case marking alignment for nouns → accusative case marking alignment for pronouns**

- This has been explained by assuming that ergative alignment is preferred for nouns as opposed to pronouns, and accusative alignment is preferred for pronouns as opposed to nouns.
- These preferences reflect the higher need to disambiguate nominal, rather than pronominal agents and pronominal, rather than nominal patients (Comrie 1989, Dixon 1994, Croft 2003).

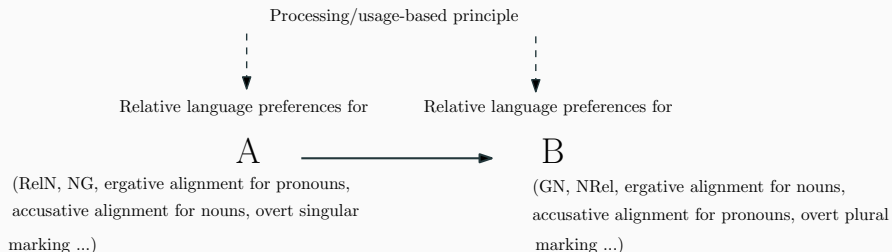
### Overt singular marking → Overt plural marking

- This has been explained by assuming that overt plural marking is preferred over overt singular marking because plural is less frequent than singular in discourse, and hence more in need to be disambiguated through overt marking (Greenberg 1966, Croft 2003).

# Theoretical implications

These explanations imply that constructional harmonies originate from **correlation principles**:

- general organizational principles of language (for example, processing or usage based principles) that **operate independently for each harmonic construction**;
- these principles lead to relative language preferences for these constructions, which in turn **lead to the harmony**.



This view has been very influential also outside the functional-typological approach:

- **psycholinguistic experiments** on the comprehension, production and acquisition of harmonic constructions, in order to test for relative language preferences for these constructions (Culbertson et al. 2012, Jaeger et al. 2012, Kurumada and Jaeger 2015, Culbertson and Newport 2017, Kurumada and Grimm 2019);
- **computational modelling** of the possible role of these preferences in acquisition (Kirby 1997, 1999);

# Theoretical implications

- research on the **co-evolution of harmonic constructions within genetic phyla** (Dunn et al. 2011).
- **generatively oriented models** where harmonic constructions each originate from **distinct grammatical components** (distinct parameters, distinct constraints), and the harmony is a result of hierarchical relationships between these components (e.g. Baker 2001, Aissen 2003).



# Theoretical implications

This view, however, is based on the synchronic properties of constructional harmonies, i.e. the attested co-occurrence patterns for the relevant constructions.

- How do these patterns actually **originate diachronically**?
- In several cases, the co-occurrence of two harmonic constructions cannot be assumed to reflect correlation principles that **operate independently for each construction** and **lead to the harmony**, because these constructions do not originate through **distinct developmental processes** that such principles could apply to.

# Constructional harmonies in diachrony

Co-occurring harmonic orders of relative clauses and possessors (RelN and GN, NG and NRel): in several cases, the relative clause construction and the possessive construction are derived from a single source, so that relative clause order and possessor order both continue the order of the source.

## (1) Bilin (Cushitic)

- (a) *'aqwa ja'ag-na-x<sup>w</sup>-əl*  
water drink-1PL-**M.REL**-to

'to water that we do not drink' (originally 'to water, **the one** (that) we do not drink': Aristar 1991: 13)

- (b) *ti'idad adäri-x<sup>w</sup>-əd*  
order lord-**M.GEN**-DAT

'by the order of the lord' (originally 'by the order, **the one** of the lord': Aristar 1991: 13)

(2) Newari (Tibeto-Burman)

- (a) *ji-nə*      *nyan-a-mha*      *nya*  
1SG-ERG buy-PAST-NMLZ/REL fish

'The fish that I bought' (originally 'the thing that I bought, a fish': DeLancey 1986, 2002: 60)

- (b) *ra:m-ya:-mha*      *khica:*  
Ram-GEN-NMLZ/POSS dog

'Rham's dog' (originally 'Ram's thing, a dog': DeLancey 1986, 2002: 61)

# Constructional harmonies in diachrony

In other cases, the relative clause construction is derived from the possessive construction, and continues the order of the latter.

## (3) Akkadian (Semitic)

**tuppi**      *addin-u-šum*

**tablet.of** I.gave-SUBJ-to.him

'the tablet **that** I gave to him' (originally 'the tablet **of** my giving to him': Deutscher 2001: 410)

## (4) Classical Tibetan (Tibeto-Burman)

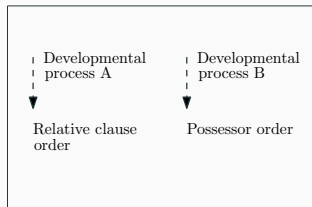
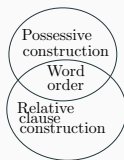
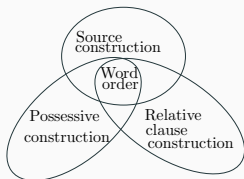
*bcad-pa-'i*      *shing*

cut-NOMLZ-GEN tree

'the tree that has been cut' (literally 'the tree of cutting': DeLancey 1999: 233)

# Constructional harmonies in diachrony

In such cases, relative clause order and possessor order are actually **one and the same order**: either they continue the order of a single source that gives rise to both the relative clause construction and the possessive construction, or one of these constructions is derived from and inherits the order of the other. This is different from cases where **two separate developmental processes** independently give rise to each order.



No evidence for principles that **operate independently for each harmonic order** and **lead to the harmony**, because there are **no distinct orders** to start with.

# Constructional harmonies in diachrony

Co-occurring harmonic uses of ergative and accusative alignment for nouns and pronouns: the ergative or the accusative marker is often derived from some pre-existing element that was originally used for **some other function**, but occurred with **both nouns and pronouns**.

## (5) Cariña (Carib)

*a-eena-rí*                      *í-wa-ma*  
2-have-NOMLZR    1-DAT/ERG-3.be

'I will have you' (from a nominalized construction 'To me it will be your having > You will be had by me': Gildea 1998: 169)

# Constructional harmonies in diachrony

## (6) Twi (Niger-Congo)

(a) *ɔkɔm de me*  
hunger take me

'Hunger takes me' (Lord1993: 70) [from an earlier description of the language]

(b) *o-de afoa ce boha-m*  
he-OBJ sword put scabbard-inside

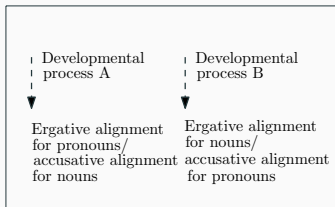
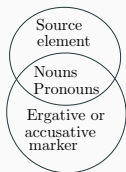
'He put the sword into the scabbard' (Lord 1993: 66)

(c) *wɔ-de no yee ɔsafohéne*  
they-OBJ him make captain

'they made him captain' (Lord 1993: 79)

# Constructional harmonies in diachrony

In such cases, other things being equal, the harmonic uses of ergative or accusative alignment for nouns and pronouns will be a result of **a single developmental process** whereby the original distribution of the source element across nouns and pronouns is inherited by the ergative or the accusative marker. This is different from cases where **two separate developmental processes** independently give rise to each use.



No evidence for principles that **operate independently for each harmonic use** of ergative or accusative alignment and **lead to the harmony**, because there are **no distinct processes** that separately give rise to each use.



# Constructional harmonies in diachrony

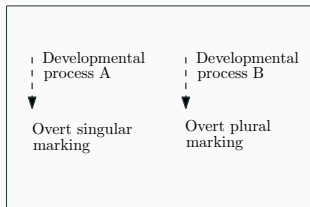
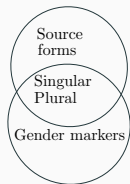
Co-occurring harmonic uses of overt marking for singular and plural: the singular and the plural marker can originate through the grammaticalization of elements that were used for other functions, but had distinct singular and plural forms (e.g. demonstratives and third person pronouns that grammaticalize into gender/number markers).

		Nouns		Third person pronouns	
SG	M	/õǎ- <b>mà</b>	'boy'	xà- <b>má</b> , á- <b>mà</b> , i- <b>mà</b>	'he'
	F	/õǎ- <b>hè</b>	'girl'	xà- <b>hè</b> , á- <b>hè</b> , i- <b>hè</b>	'she'
	C	/õǎ- <b>('à)</b> , /õǎ- <b>djì</b>	'child'	(xa-' <b>à</b> )	'it'
PL	M	/õǎ-// <b>u'a</b>	'boys'	xà-// <b>uá</b> , á-// <b>uá</b> , í-// <b>uá</b>	'they'
	F	/õǎ- <b>djí</b>	'girls'	xà- <b>djí</b> , á- <b>djí</b> , í- <b>djí</b>	'they'
	C	õǎ- <b>nà</b>	'children'	xà- <b>nà</b> , á- <b>nà</b> , í- <b>nà</b>	'they'

**Table 1:** Gender/number markers and third person pronouns in Kxoe (Khoisan: Heine 1982: 211)

# Constructional harmonies in diachrony

In such cases, other things being equal, the harmonic uses of overt marking for singular and plural will be a result of **a single developmental process** whereby both the singular and the plural forms of the source element grammaticalize into gender/number markers. This is different from cases where **two separate developmental processes** independently give rise to each use.



No evidence for principles that **operate independently for each harmonic use** of overt marking and **lead to the harmony**, because there are **no distinct processes** that separately give rise to each use.

# Constructional harmonies in diachrony

The impact of these facts will vary from one harmonic pattern to another, but

- cases where two co-occurring harmonic constructions do not originate independently should be singled out in order to assess the actual evidence for the assumed correlation principles;
- **developmental bias**: once these cases are taken out the remaining cases where the two constructions co-occur might not provide evidence for the assumed correlation principle, but this is not apparent from the synchronic co-occurrence pattern, because this pattern is not transparent as to the origins of the constructions.

# Constructional harmonies in diachrony

	RelN	NRel
GN	(i) 128	(ii) 161
NG	(iii) 2	(iv) 328

**Table 2:** Relative clause order and possessor order (Dryer 2013a, 2013b)

	ACC Nouns	
ACC pronouns	Yes	No
Yes	(i) 49	(ii) 22
No	(iii) 2	(iv) 109

**Table 3:** Accusative case marking alignment for nouns and pronouns (Comrie 2013a, 2013b)

- Cell (i) vs. cell (iii) : Lots of cases where relative clauses and possessors are both preposed or accusative alignment is used for both nouns and pronouns (as opposed to cases where only relative clauses are preposed or accusative alignment is restricted to nouns).
- But in how many of the cases in cell (i) did the two constructions develop through separate processes? The number or the areal or genetic distribution of these cases might not provide evidence for a correlation principle, but this is not apparent synchronically.

# Constructional harmonies in diachrony

Evidence for correlation principles operating independently for each of two harmonic constructions A and B can only come from cases where these constructions originate through distinct processes, for example

- **Distinct source constructions** independently give rise to A and B.

Source construction<sub>A</sub>



A (RelN, NG, ergative alignment for pronouns, accusative alignment for nouns, overt singular marking ...)

Source construction<sub>B</sub>



B (GN, NRel, ergative alignment for nouns, accusative alignment for pronouns, overt plural marking ...)

# Constructional harmonies in diachrony

## (7) Old French

(a) *la nuit que mesire Gauvain jut avec la*  
the night that lord Gauvain slept with the  
*bele file Helient le roi de Norgales*  
beautiful daughter Helient the king of Norgales  
'The night lord Gauvain slept with Helient, the beautiful  
daughter of the king of Norgales' (Schafroth 1993: 84: relative  
element derived from a corresponding Latin one, in turn derived  
from an interrogative/indefinite element)

(b) *les cols de lor chevaus*  
the necks of their horses  
'the necks of their horses' (Heine1997: possessive element  
derived from an adposition meaning 'from')

## (8) Tok Pisin

**wanpela** dog/ **ol** dog  
one dog all dog  
'dog, a dog/ dogs' (Mosel 1980: 114)

# Constructional harmonies in diachrony

- **Extension:** A develops from B as some morphosyntactic pattern is extended from context B to context A, e.g.
  - some word order pattern (head-modifier, modifier-head) is extended from one construction to another
  - an ergative marker is extended from nouns to pronouns (Dixon 1977 on some Australian languages), an accusative marker is extended from pronouns to nouns (Rohlf's 1984, Pensado 1995 on Romance).

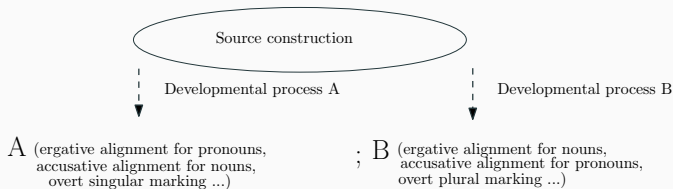
Morphosyntactic pattern X (head-modifier/modifier-head order, ergative marker, accusative marker ...)



A (RelN, NG, ergative alignment for pronouns, ; B (GN, NRel, ergative alignment for nouns, accusative alignment for nouns ...)

# Constructional harmonies in diachrony

- **Differential development:** Some source construction gives rise to both A and B, but through separate processes, for example
  - some form used with both nouns and pronouns evolves into an ergative or an accusative form, but through separate grammaticalization processes for nouns and pronouns;
  - demonstratives or third person pronouns with distinct singular and plural forms evolve into gender/number markers, but through separate grammaticalization processes for the singular and the plural form.





# Conclusions

- Several such cases are attested cross-linguistically, but in general they are not apparent at the synchronic level.
- So, in order to posit, model, or test for principles of causation leading to constructional harmonies, a **qualitative understanding** is needed of several different diachronic scenarios that may be responsible for such harmonies.

In line with previous diachronically oriented research (Bybee 1988, 2006, 2008; Aristar 1991; Blevins 2004), these facts suggest a new approach for disciplines that investigate constructional harmonies and typological universals in general, one where the focus shifts from synchronic distributional patterns to an understanding of the role of multiple source constructions and diachronic processes that shape these patterns cross-linguistically (Cristofaro 2013, 2014, 2017, 2019).

# Abbreviations

C	common
DAT	dative
DAT	dative
GEN	genitive
M	masculine
NOMLZR	nominalizer
PL	plural
SUBJ	subjunctive

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