

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**.

Some examples

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 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 general organizational principles of language that **operate independently for each harmonic construction** and **lead to the harmony**:

- processing or usage-based principles operate independently for different harmonic constructions (different word orders, different uses of ergative or accusative alignment, different uses of overt number marking), and determine relative language preferences for these constructions;
- these preferences lead to the attested harmonic patterns.

Theoretical implications

This idea 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

These views, however, are 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 many cases, the co-occurrence of two harmonic constructions cannot be taken as evidence for principles that **operate independently for each construction** and **lead to the harmony**, because the relevant constructions **do not originate through distinct processes**.

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^w-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^w-əd*
order lord-**M.GEN**-DAT

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

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

(2) Akkadian (Semitic)

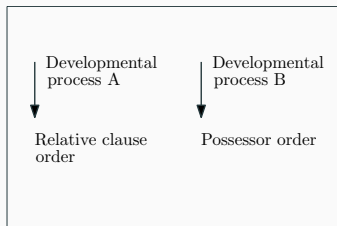
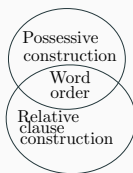
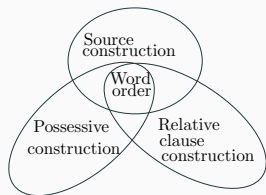
tuppi *addin-u-šum*

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)

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.



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

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.

(3) Cariña (Carib)

a-eena-ri *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

(4) 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

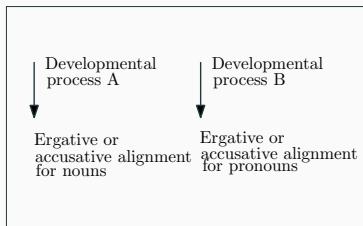
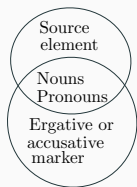
'He put the sword into the scabbard' (Lord 1993: 66)

- (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 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.



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

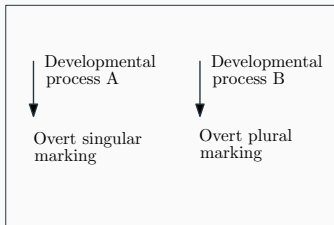
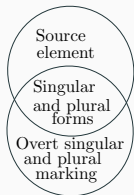
Co-occurring harmonic uses of overt marking for singular and plural: the singular and the plural marker can originate through the grammaticalization of elements that were used for other functions, but had distinct singular and plural forms (e.g. demonstratives and third person pronouns that grammaticalize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

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

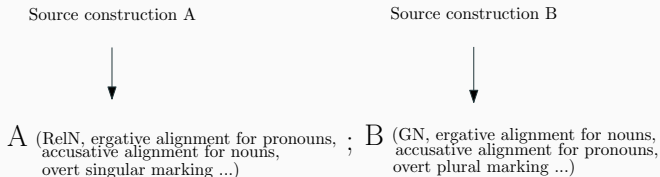


No evidence for principles that **operate independently for each harmonic use** of overt marking and **lead to the harmony**, because there are **no distinct processes** that separately give rise to each use.

Constructional harmonies in diachrony

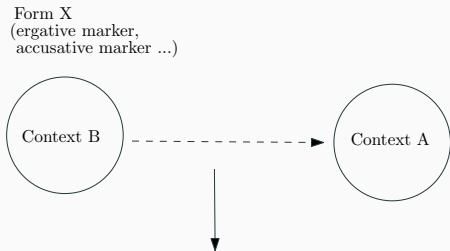
Evidence for principles operating independently for each harmonic construction can only come from cases where these constructions originate through distinct processes, for example

- two distinct source constructions give rise to two co-occurring harmonic constructions A and B



Constructional harmonies in diachrony

- a construction B gives rise to a co-occurring harmonic construction A through the extension of the relevant form from context B to context A, e.g. an ergative marker is extended from nouns to pronouns, or an accusative marker is extended from pronouns to nouns.



- A (ergative alignment for pronouns, accusative alignment for nouns ...);
B (ergative alignment for nouns, accusative alignment for pronouns ...)

Conclusions

- Many such cases are attested cross-linguistically, but their impact will vary from one harmonic pattern to another, so they should be disentangled in order to assess the actual evidence for the assumed principles.
- 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 some 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 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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