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## **From synchronically oriented typology to source oriented typology: Implicational universals in diachronic perspective**

- (1) One of the most important results of typological research: Implicational universals of the form  $A \rightarrow B$

This formulation describes a specific distributional pattern:

neither A nor B need occur in the world's languages ((i) in table 1), but A usually only occurs when B also occurs ((ii), (iv)), while B can occur independently of A ((iii)).

	$\sim A$	A
$\sim B$	(i) yes	(ii) <b>no</b>
B	(iii) yes	(iv) yes

Table 1:

The distributional patterns described by implicational universals

(2) Why do we think implicational universals are so important?

- There is a general assumption that, since A and B are logically distinct phenomena, the fact that A only occurs when B also occur must reflect **some theoretically meaningful relationship between the two.**
- Hence implicational universals capture **some general organizational principle of language linking A and B.**
- This is reflected in the explanations usually provided for implicational universals, in both functional and formalist approaches.

- For example, there is a universal whereby, if accusative case marking is used for inanimate nouns, then it is used for animate nouns.
- In functionally oriented approaches (Comrie 1989, Dixon 1994, among others), this is explained by assuming that animate nouns are less likely to occur as P arguments than inanimate nouns, hence animate P arguments are more difficult to identify and more in need to be disambiguated through accusative case marking. As a result, speakers will tend to use accusative case marking for animate rather than inanimate nouns, and, if accusative case marking is used for inanimate nouns, then it will also be used for animate nouns.
- In formally oriented approaches (e.g. Baker 2001, (Aissen 2003), Baker and McCloskey 2007, or Kiparsky 2008) this is explained by postulating a number of constraints that are part of a speaker's mental grammar and give the distribution described by the universal, for example  
\*OBJ/Anim &  $\emptyset_C$  > > \*OBJ/Inanim &  $\emptyset_C$  (Aissen 2003)

- Both approaches assume that the universal captures a theoretically meaningful relationship between the use of accusative case marking for inanimate nouns and the use of accusative case marking for animate nouns (either in the form of general preferences leading speakers to use the former rather than the latter, or in the form of inbuilt constraints on the use of the two).

(3) The actual significance of the patterns described by implicational universals:

- the relative frequency of some pattern may not be significant in itself, unless there is some reliable evidence that it deviates from statistical expectations;
- Individual patterns have been defined without taking into adequate account possible genealogical and geographical biases (Dryer 1992, Maslova 2000, Cysouw 2003, Nichols 2003, Bickel 2011, among many others; Hammarström's course).

These points, however, mainly pertain to **the statistical significance** of individual patterns described by implicational universals, not **the notion of implicational universal in itself**:

- To the extent that the pattern described by some implicational universal can be assumed to deviate from statistical expectations and be free from genealogical or geographical bias, then it is generally assumed the implicational universal is a theoretically meaningful way to describe that pattern, in the sense that the pattern reflects a specific relationship between the relevant phenomena, as described by the universal.

(4) But are implicational universals really a **theoretically meaningful way** to describe the relevant distributional patterns?

(5) Universals describe **synchronic** distributional patterns:

- These patterns, however, originate from **specific diachronic processes** that give rise to the relevant constructions, so in principle any assumption about the patterns should be consistent with these diachronic processes ((6); see also Aristar 1991, Gildea 1998).
- Yet, assumptions about the patterns described by implicational universals are usually based on the synchronic properties of the pattern, not the actual diachronic processes that give rise to the pattern cross-linguistically. For example, assumptions about the relationship between accusative case marking for animates and accusative case marking for inanimates are based on the synchronic distribution of accusative case marking across these NPs, not how the relevant case markers originate from one language to another.

- (6) ‘Most of the attempts at explaining grammatical phenomena that are frequent cross-linguistically proceed by identifying certain factors that show the phenomenon in question to be beneficial from the language user’s point of view. These might be called synchronic explanations; they are explanations based on processing ease, on iconicity ... In order for these factors to qualify as explanations, a causal connection between the factor and the grammatical phenomenon must be demonstrated: that is, it must be shown that the factor appealed to as explanation actually contributes to the creation of the particular grammatical convention.’ (Bybee 1988: 357)



(7) Diachronic evidence about the origins of the patterns described by implicational universals is overall scanty in comparison to synchronic evidence about the patterns. However, the available evidence challenges current assumptions about implicational universals in two major ways (Cristofaro 2013, 2014, to appear):

- **No specific relationship between the two terms of the universal in themselves:** In many cases, universals of the form  $A \rightarrow B$  do not actually capture a specific relationship between A and B **in themselves**, in the sense that there is some factor linking the occurrence of A **in itself** to that of B **in itself**. Such a relationship only possibly pertains to **some of the processes that give rise to A and B**, not A and B in general.
- **No unified pattern involving A and B:** In many cases, universals of the form  $A \rightarrow B$  do not actually capture a unified pattern, in the sense that the occurrence vs. non-occurrence of the various configurations described by the universal (table 1) reflects some unified phenomenon.

(8) Differential object marking:

Accusative case marking for animate/definite nouns → Accusative case marking for pronouns

Accusative case marking for inanimate/indefinite nouns → Accusative case marking for animate/definite nouns

- This has been related to the fact that pronouns and animate/definite nouns are less likely to occur as P arguments as opposed, respectively, to nouns in general and inanimate/indefinite nouns. When pronouns and animate/definite nouns do occur as P arguments, then, the P role it is more difficult to identify and more in need to be disambiguated through accusative marking (Comrie 1989, Dixon 1994, Song 2001, among others).

- This involves an assumption that there is **unidirectional dependency relationship** between accusative case marking for more frequent types of P arguments and accusative case marking for less frequent types of P arguments, such that accusative case marking will only be used for more frequent types of P arguments if it is used for less frequent types of P arguments, but it can be restricted to less frequent types of P arguments. The discourse frequency of the various types of P arguments motivates the relationship.

- (9) Do the universals really capture a unidirectional dependency relationship between accusative case marking for less frequent types of P arguments and accusative case marking for more frequent types of P arguments **in themselves?**
- (10) Cases where accusative case marking for a less frequent type of P argument co-occurs with accusative case marking for a more frequent type of P argument (accusative case marking for both pronouns and animate/ definite nouns, or for pronouns, animate/definite nouns and inanimate/indefinite nouns):
- In such cases, the two uses of accusative case marking may not actually be distinct phenomena, in that they originate through a single process.
  - In some cases, the accusative marker develops from the marker encoding the notional P argument of a nominalization ('X is occupied with the making of Y' > 'X is making Y ACC': ((11)). The notional P argument of the nominalization can be pronominal, animate/definite, and

inanimate/indefinite. Other things being equal, then, these constructions will always give rise to accusative case markers applying to pronominal, animate/definite, and inanimate/indefinite P arguments.

- In other cases, the accusative case marker develops from a ‘take’ verb in constructions of the type ‘take X and Verb (X)’ > ‘ACC X Verb’: the accusative case marker is reinterpreted as a marker for its former P argument ((12)). The ‘take’ verb can have pronominal, animate and inanimate P arguments, so, other things being equal, it will always give rise to accusative case markers applying to pronominal, animate, and inanimate P arguments.

Wayana (Carib)

(11) *i-pakoro-n*                      *iri-Ø*                      *pək*                      *wai*  
 1-house-POSS/OBJ    make-NOMLZR    occ.with    1.be

‘I’m (occupied with) making my house (lit. ‘my house’s making’) (Gildea 1998: 201)

Twi (Niger-Congo)

(12) (a) *ɔkɔm de me*

hunger take me

‘Hunger takes me’ (Lord 1993: 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 osafohéne*

they-OBJ him make captain

‘they made him captain’ (Lord 1993: 79)

- (13) In such cases, the source construction will usually give rise to both accusative case marking for less frequent types of P arguments and accusative case marking for more frequent types of P arguments anyway. Thus, contrary to the assumptions underlying the use of the relevant implicational universals,
- (i) there is no evidence that the occurrence of accusative case markers for less frequent types of P arguments (inanimate/indefinite nouns, nouns as opposed to pronouns) depends on the occurrence of accusative markers for less frequent types of P arguments (animate/definite nouns, pronouns);
  - (ii) accusative markers for less frequent types of P arguments wouldn't occur in the absence of accusative case markers for more frequent types of P arguments.

- (14) A unidirectional dependency relationship between the occurrence of accusative markers for a less frequent type of P arguments and the occurrence of accusative markers for a more frequent type of P arguments can only be postulated for cases where the markers originate **through distinct processes**.
- If there is such a relationship, then, it pertains to **these processes**, not accusative case marking for less frequent types of P arguments and accusative case marking for more frequent types of P arguments **in themselves**.
  - Thus, the cases where accusative case marking for less frequent types of P arguments and accusative case marking for more frequent types of P arguments originate through such processes ((15)) should be disentangled from those where they originate through a single process.



Persian (Indo-European)

(15) *Dâlâne derâze târik-i-râ peymud*  
corridor long dark-INDEF-ACC traversed

‘He traversed a long dark corridor’ (Hopper and Traugott 2003, from Bossong 1985: the accusative case marker, derived from an adposition meaning ‘to, with respect to’, was originally used only for definite objects, and came to be used with indefinite ones through extension).

- (16) **Specific processes** do in fact give rise to accusative case marking restricted to less frequent types of P arguments: When accusative case markers are lost (usually through phonological processes), the process can be restricted to the markers used for more frequent types of P arguments (pronouns as opposed to nouns: (17)), leading to a situation where only more frequent types of P arguments have accusative marking.

## Nganasan (Uralic)

- (17) (a) **mənə** *nanuntə*                      *mɪntəl'i-ʔə-ŋ*  
 1SG    2SG.LOC-INSTR take-INDEF-2SG  
 ‘You have taken me with you.’ (Filimonova 2005: 94: pronominals originally had dedicated accusative forms, e.g. *mənə-m* ‘1SG-ACC’)
- (b) *ŋülæzə* *tundi-m*    *tandarku-čü*  
 wolf    fox-ACC chase-3SG.A/NON.SG.P  
 ‘The wolf is chasing the fox.’ (Filimonova 2005: 94)

(18) If there was some general principle disfavoring accusative case marking restricted to more frequent types of P arguments **in itself**, these processes should not take place.

- Then why is it that accusative case marking is usually not restricted to more frequent types of P arguments?

- (19) A number of processes lead to accusative case marking being used for both more frequent and less frequent types of P arguments, or just less frequent types, **due to nature of the process and the properties of the source constructions:**
- Elements compatible with both more frequent and less frequent types of P arguments (markers of the notional P argument of a nominalization, ‘take’ verbs) give rise to accusative markers applying to both.
  - Elements restricted to, or mainly used with more frequent types of P arguments give rise to accusative markers restricted to these arguments ((20)-(27), table 3).
- (20) Topic markers evolve into accusative markers (‘As for X > ‘X ACC’: (21)-(23)). Topics are usually pronominal, animate, and definite, and the resulting accusative markers are restricted to pronominal and animate/definite P arguments, at least initially.

Kanuri (Nilo-Saharan)

- (21) (a) *Músa shí-ga cúro*  
Musa 3SG-OBJ saw  
'Musa saw him' (Cyffer 1998: 52)
- (b) *wú-ga*  
1SG-as.for  
'As for me' (Cyffer 1998: 52)

Corsican (Romance)

- (22) (a) *cercu a boi*  
look.for:1SG to you  
'I am looking for you' (Rohlf's 1984: 66)
- (b) *a chi ghiè pinzutu 'un more tundu*  
to who is pointed NEG die.3SG round  
'He who is pointed will not die a square man (proverb).' (Rohlf's 1984: 77)

Romanian (Romance)

- (23) **Pe**            **mine**        *nu*    *m-a*        *văzut*  
TOP/ACC 1SG.OBJ NEG 1SG-AUX see.PTCPL  
'He didn't see me.' (Pensado 1995: 219)

- (24) In light verb constructions of the type 'Do clean to X' for 'Clean X', with an indefinite P arguments and a definite indirect object, the indefinite P argument is incorporated, and the indirect object is reanalysed as the P argument. As this type of indirect object is often definite, the indirect object marker is reanalysed as a marker for definite P arguments, while indefinite P arguments remain unmarked ((25): Harris 2002: chap. 11).

Udi (Nakho-Dagestanian)

- (25) *sa tovla ak'-es-ne-d-e hame tovl-in-a*  
one stall.ABS see-INF-3SG-CAUS-AORII this stall-OBL-DAT  
*tamiz-b-a*  
clean-do-IMP  
'He showed him a stall, 'Clean this stall ...' (Harris 2002: 245)

- (26) Processes of phonological erosion can target the accusative markers used with more frequent types of P arguments (nouns as opposed to pronouns: table 2) due to structural properties of the markers (phonological properties, the less conservative nature of nouns as opposed to pronouns: Blake 2001).

		1st person ‘ name’
NOM	<b>ik</b>	name
ACC	<b>mē</b>	<b>name</b> (from <b>naman</b> )

Table 2: Pronominal and nominal declension in late Middle English (Blake 2001: 177-9)

- (27) Sometimes pronouns undergo phonological reduction when used as A or S arguments, plausibly due to the high textual frequency of the relevant forms. As a result, the original form becomes restricted to P arguments, so that pronouns develop distinct A/S and P forms, while nominal A, S and P arguments remain undifferentiated (table 3).



		Subject	Object
Louisiana Creole	1SG	<b>mo</b>	mwa
	2SG	<b>to</b>	twa

Table 3: Pronominal declension in Louisiana Creole (Haspelmath and the APiCS Consortium 2013: 233)

(28) In these various cases, different processes, due to the nature of the process and the source construction, lead to accusative case marking being used for both more frequent types of P arguments and less frequent types of P arguments, or just less frequent types. This provides a plausible explanation for the distributional pattern described by the universal:

- The pattern is a result of the higher frequency of these processes as opposed to ones leading to accusative case marking restricted to more frequent types of P arguments.

- In this case, however, the implication reflects some preference for **these processes**, rather than some general principle pertaining to the use of accusative case marking for different types of P arguments **in themselves** (since specific processes do lead to the configuration prohibited by this principle).

- (29) The use of implicational universals to describe the distribution of accusative case marking for different types of P arguments involves an assumption that this is a **unified phenomenon**: is this really the case?
- (30) The various processes that give rise to the distribution are triggered by different factors:
- In some cases, the development of accusative markers is plausibly driven by the fact that the original meaning of various elements (a topic marker, a ‘take’ verb) is bleached and these elements are reinterpreted as markers for a co-occurring P argument.
  - In other cases, various elements within a construction are reanalyzed as P arguments, so that the markers on these elements become markers for P arguments.

- In yet other cases, phonological processes lead to the elimination of some of the markers used for P arguments, or to some element being shortened when encoding S or A arguments, so that the original form of the element becomes restricted to P arguments.

These mechanisms are rather different in nature, and there is no evidence that they should reflect some unified principle.

(31) The configurations resulting from each process are directly motivated in terms of the nature of the process and the properties of the source constructions. Individual configurations described by the universal originate differently in different cases, and not in the same way as other configurations:

- Accusative case markers resulting from the reinterpretation of pre-existing elements are restricted to particular types of P arguments when the source elements is restricted in the same way, and are not restricted to these arguments when the source element is not so restricted.

- Zero marking resulting from phonological erosion involves markers for more frequent types of P arguments or markers for less frequent types of P arguments depending on the phonological properties of the marker.
- Accusative case marking for both less frequent types and more frequent types of P arguments can be a result of
  - the grammaticalization of different elements applying to both types of P arguments (markers used to encode the notional P argument of a nominalization, ‘take’ verbs’);
  - the extension of an existing accusative marker from one type of P argument to another.
- Accusative case marking restricted to less frequent types of P arguments can be a result of
  - the grammaticalization of accusative markers from elements restricted to, or mainly occurring with the relevant types of P

- arguments (topic markers, markers mainly used with definite indirect objects);
- elimination of the accusative markers used for more frequent types of P arguments due to regular sound change (phonological erosion);
  - textual frequency leading to shortening of the A/S forms of the relevant NP types (pronouns), so that the original form becomes a dedicated form for P arguments.

There is no obvious evidence, then, that the distributional pattern described by the universal is motivated by some general principle independent of the various processes and source constructions.

(32) Thus,

- The distribution of accusative case marking for different types of P arguments can be described in term of an implicational universal referring to these arguments in general.

- However, this does not correspond to a specific (unidirectional) dependency relationship between different types of P arguments in themselves: the distribution is actually a result of specific processes that can give rise to or eliminate accusative case marking, and these processes do not appear to reflect some unified phenomenon, nor to be motivated by the properties of different types of P arguments in themselves.
- So it is not really meaningful to describe the distribution in terms of an implicational relationship between different types of P arguments in themselves, and the effects of different diachronic processes and source constructions should be disentangled when trying to account for the distribution.

(33) Number marking: Overt marking for singular → Overt marking for plural:

- This has been related to the relative discourse frequency of singular and plural: plural is less frequent than singular, hence it is more difficult to identify and more in need to be disambiguated through overt marking (Greenberg 1966, Croft 2003, Haspelmath 2006 and 2008).
- This involves an assumption that there is a **unidirectional dependency relationship** between overt marking for singular and overt marking for plural, such that overt singular markers will only occur if overt plural markers also occur, while plural markers can occur in the absence of singular markers. The dependency relationship is determined by the discourse frequency of singular and plural.

(34) Does the universal really capture a unidirectional dependency relationship between overt marking for singular and overt marking for plural **in themselves?**



(35) Cases where overt singular markers and overt plural markers co-occur:

- In such cases the occurrence of overt singular markers and that of overt plural markers may not actually be distinct phenomena, because they originate through a single process.
- For example, the markers are actually sometimes gender markers that encode number because they evolved from elements (third person pronouns, demonstratives) with distinct singular and plural forms (table 4).

	SG	PL	
Nouns	M / <i>õǎ-mà</i>	/ <i>õǎ-//u‘a</i>	‘boy’
	F / <i>õǎ-hè</i>	/ <i>õǎ-djì</i>	‘girl’
	C / <i>õǎ-(‘à)</i> , / <i>õǎ-djì</i>	<i>õǎ-nà</i>	‘child’
Pronouns	M <i>xà-má</i> , <i>á-mà</i> , <i>i-mà</i>	<i>xà-//uá</i> , <i>á-//uá</i> , <i>í-//uá</i>	‘he’
	F <i>xà-hè</i> , <i>á-hè</i> , <i>i-hè</i>	<i>xà-djí</i> , <i>á-djí</i> , <i>í-djí</i>	‘she’
	C ( <i>xa-‘à</i> )	<i>xà-nà</i> , <i>á-nà</i> , <i>í-nà</i>	‘it’

Table 4: Gender/number markers and third person pronouns in Kxoe (Khoisan: Heine 1982: 211)

(36) In such cases, other things being equal, the construction will give rise to **both overt singular markers and overt plural markers** anyway, so, contrary to the assumptions underlying the use of the implicational universal,

- (i) there is no evidence that the occurrence of overt singular markers depends on that of overt plural markers;

(ii) overt plural markers wouldn't occur in the absence of overt singular markers.

(37) A unidirectional dependency relationship between the occurrence of singular markers and that of plural markers can only be postulated for cases where the two originate **through distinct processes**.

- If there is such a relationship, then, it pertains to **these processes**, not overt singular markers and overt plural markers **in themselves**.
- The cases where overt singular markers and overt plural markers originate through such processes, then, should be disentangled from those where they originate through a single processes (such cases may actually reveal exceptions to the universal, which are obscured at the synchronic level (38)).

- (38) Indefinite articles in French: the singular and plural forms developed from different sources (*un* ‘a’, from ‘one’; *des* ‘some’, from a spatial preposition used in partitive function), and the singular form developed earlier (Carlier 2007)

(39) **Specific processes** do in fact give rise to singular markers occurring in the absence of plural markers:

- When number markers are lost, for example through phonological erosion, the process may be restricted to plural markers ((40), (41)), leading to situations where singular remains overtly marked but plural is unmarked.
- Similarly, number markers can develop through metonymization: in partitive expressions, the number meaning originally associated with a quantifier is transferred onto a co-occurring element (a partitive marker, a verbal form). If the quantifier refers to a single entity, this can give rise to singular markers, leading to situations where singular is overtly marked and plural is not ('one of the women' > woman SG: (42)).

- (40) Sinhala (Indo-European): some inanimate nouns have overtly marked singulars and zero marked plurals (e.g. *pot-a/ pot* ‘book-SG/ book.PL’). This was a result of phonetic changes leading to the loss of the plural ending of a specific inflectional class in the ancestor language (Nitz and Nordhoff 2010: 250-6).
- (41) Nchanti (Niger-Congo): Nouns in classes 3/4 have overt marking in the singular and zero marking in the plural, e.g. *k<sup>w</sup>āŋ/ kāŋ* ‘firewood.SG/ firewood.PL, *k<sup>w</sup>ēē/ kēē* ‘moon.SG/ moon.PL’. Originally, both singular and plural were marked overtly through the two prefixes *\*u-* and *\*i-* respectively. As these were eliminated, the singular prefix led to the labialization of the initial consonant of the stem, while the plural prefix left no trace (Hombert 1980).

Imonda (Border)

- (42) (a) *ka-ianèi ainam iaha-t*  
we-NONPL quickly die-CF  
'One of us would die quickly' (Seiler 1985: 39)
- (b) *po me-ianèi*  
water hole-SRC  
'from underneath the water' (Seiler 1985: 73)
- (c) *agõ-ianèi sabla ha-pia-ual-f*  
women-SRC two MO-come-DL-PRES  
'There are two women coming' (Seiler 1985: 39)

(43) If there was some general principle disfavoring overt marking restricted to singular **in itself**, we would not expect these processes to take place.

- So why is it that overt marking for singular usually does not occur in the absence of overt marking for plural?

(44) A number of processes lead to the development of overt marking for both singular and plural, or just plural **due to the properties of the source construction**:

- Elements applying to both singular and plural (gender markers evolving from elements with distinct singular and plural forms) give rise to overt marking for both singular and plural.
- Elements inherently or contextually associated with the notion of plurality give rise to plural markers ('many of them' > 'they PL'; distributives; 'all', 'several', 'people': (45)-(46), (47), (48)).

Bengali (Indo-European)

(45) (a) *chēlē-rā*

child-GEN

'children' (15th century: Chatterji 1926: 736)



- (b) *āmhā-rā s̄ab̄ā*  
we-GEN all  
'all of us' (14th century: Chatterji 1926: 735)

Assamese (Indo-European)

- (46) (a) *chātar-hāt*  
student-PL  
'Students' (Modern Assamese: Kakati 1962: 295)
- (b) *dui-hanta*  
two-be.PTCPL  
'Both of them' (Early Assamese: Kakati 1962: 283)

Southern Paiute (Uto-Aztecan)

- (47) (a) *qa'ni / qaŋqa'ni*  
house / house.DISTR  
'house, houses' (Sapir 1930-1: 258)

- (b) *piŋwa-* / **pivi'ŋwa.mi**  
wife / wife.DISTR.their  
'wife / their (vis.) wives' (Sapir 1930-1: 257)

Maithili (Indo-Aryan)

- (48) (a) *əndit* **lokəin**  
pundit people  
'pundits' (Yadav 1997: 70)
- (b) *jən* **səb**  
laborer all  
'laborers' (Yadav 1997: 69)

- (49) If there are processes that, due to the nature of the source constructions, lead to overt marking being used for both singular and plural, or just plural, this provides a plausible explanation for the distributional pattern described by the universal:

- The pattern is a result of the higher frequency of these processes as opposed to ones leading to overt marking restricted to singular.
- In this case, however, the implication reflects some preference for **these processes**, rather than some general principle pertaining to the use of overt marking for singular and plural **in themselves** (since specific processes do lead to the configuration prohibited by this principle).

- (50) The use of an implicational universal to describe the distribution of overt marking for singular and plural involves an assumption that this distribution reflects **some unified phenomenon**: is this really the case?
- (51) The various processes that give rise to the distribution are triggered by different factors:
- The development of overt singular and plural markers through grammaticalization is plausibly driven by the fact that the meanings of singular and plural can be inferred from the original contexts of occurrence of the source construction, and different source constructions give rise to plural markers, singular markers, or both.
  - The development of plural markers through metonymization is a result of the source element co-occurring with elements with plural meaning.
  - phonological erosion leading to zero marking for singular is driven by the phonological properties of the singular marker.

These mechanisms are rather different in nature, and there is no evidence that they should reflect some unified principle.

(52) The configurations resulting from each process are directly motivated in terms of the nature of the process and the properties of the source constructions. Individual configurations described by the universal originate differently in different cases, and not in the same way as other configurations:

- Overt marking resulting from grammaticalization is restricted to plural when the source construction is associated with the notion of plurality, and applies to both singular and plural when the source construction applies to both.
- Overt marking resulting from metonymic transfer of number meaning from a quantifier to a co-occurring element applies to either plural or singular depending on the quantifier.

- Zero marking resulting from phonological erosion involves either singular or plural depending on the phonological properties of the marker.
- Overt marking for both singular and plural can be a result of
  - the grammaticalization of constructions applying to both singular and plural;
  - the combination of distinct processes of grammaticalization involving other source constructions, and giving rise, respectively, to singular and plural markers.
- Overt marking restricted to plural can be a result of
  - the grammaticalization of plural markers from elements associated with the notion of plurality;
  - phonological erosion of singular markers in languages having overt markers for both singular and plural.

There is no obvious evidence, then, that the distributional pattern described by the universal is motivated by some general principle independent of the various processes and source constructions.

(53) Thus,

- The distribution of overt marking for singular and plural can be described in term of an implicational universal referring to singular and plural in general.
- However, this does not correspond to a specific (unidirectional) dependency relationship between overt singular markers and overt plural markers in themselves: the distribution is actually a result of specific processes that give rise to zero vs. overt marking for singular and plural, and these processes do not appear to reflect some unified phenomenon, nor to be motivated by properties of singular and plural in themselves.

- So it is not really meaningful to describe the distribution in terms of an implicational relationship between overt singular markers and overt plural markers, and the effects of different diachronic processes and source constructions should be disentangled when trying to account for the distribution.

(54) Word order correlations: preposed relatives (RelN) → preposed possessors (GN):

- This has been explained in terms of processing: there is a tendency not to place heavy modifiers before the head, because this will delay recognition of the head (Hawkins 1983 and subsequent works). Heavier modifiers, such as Rel, will be placed before the head only if lighter modifiers, such as G, also are.



- This involves an assumption that there is a **unidirectional dependency relationship** between RelN and GN, such that RelN will only occur if GN also occurs, while GN occurs independently. The relationship is motivated in terms of the relative structural complexity of Rel and G.

(55) Does the universal really capture a unidirectional dependency relationship between RelN and GN **in themselves**?

(56) Cases where RelN and GN co-occur:

- In such cases, RelN and GN may not actually be distinct phenomena, in that they originate from a single process.

- Sometimes, both RelN and GN originate from a construction where a semantically generic noun ('thing' and the like) is modified by a preposed expression and stands in apposition to another noun. Depending on the nature of the modifier, the construction is reinterpreted either as a relative clause construction or a possessive construction: 'A Verbed thing, X' > 'The Verbed REL X' (for 'The X Verbed'), 'Y's thing, X' > 'Y POSS X' (for 'The X of Y': (57)). Other things being equal, then, the construction will give rise to both RelN and GN.
- In other cases, both RelN and GN evolve from a construction where a demonstrative is combined with a postposed predicating expression and stands in apposition to another noun. Depending on the nature of the predicating expression, the construction is reinterpreted either as a relative clause construction or a possessive construction ('That one, Y Verbed it, X' > 'REL Y Verbed it, X' (for 'The X that Y Verbed'); 'That one (is of) Y, X' > 'POSS Y X' (for 'The X of Y': (58)). In this case too,

other things being equal, the construction will give rise to both RelN and GN.

Newari (Tibeto-Burman)

- (57) (a) *jĩ-ĩ*            *khun-a-gu*            *la*  
1SG-ERG cook-PAST-NOMLZR meat  
'The meat which I cooked' ( originally, presumably, 'my cooked thing,  
the meat': DeLancey 1986: 5-6)
- (b) *ram-ya-gu*            *tasbir*  
Ram-GEN-NOMLZR picture  
'Ram's picture (a picture that Ram owns)' (originally, presumably,  
'Ram's thing, a picture': DeLancey 1986: 6-8)

## Amharic (Semitic)

(58) (a) *təlantənnä yä-gärräf-ku-t ləğ wändəmm-u näw*  
 yesterday REL-flog.PAST-1SG-3SG boy brother-his he.is  
 ‘The boy whom I flogged yesterday is his brother’ (originally ‘that I flogged him yesterday his brother he is’: Leslau 2000: 68)

(b) *yä-bet m’askot*  
 POSS-house window  
 ‘the window of the house’ (originally ‘that (is of) the house, window: Leslau 2000: 153)

(59) In such cases, the evolution of the source construction into a relative clause or a possessor construction is plausibly a result of the bleaching of the lexical noun or the demonstrative within the construction. Other things being equal, the construction will give rise to **both RelN and GN** anyway, so, contrary to the assumptions underlying the use of the implicational universal,

- (i) the occurrence of RelN is not dependent on the occurrence of GN;
- (ii) GN wouldn't occur in the absence of RelN.

(60) A unidirectional dependency relationship between the occurrence of RelN and the occurrence of GN can only be postulated for cases where the two originate **through distinct processes**.

- If there is such a relationship, then, it pertains to **these processes**, not RelN and GN **in themselves**.
- The cases where RelN and GN originate through these processes, then, should be disentangled from those where they originate through a single process ((61)).

Cavineña (Tacanan)

- (61) (a) *ju-na-chine=ke* *hermano*  
be-COME.TEMP-REC.PAST=LIG brother  
'The brother who has arrived' (Guillaume 2012)
- (b) *Lizardu=ja arusu tee*  
Lizardu=GEN rice garden  
'Lizardu's rice garden' (Guillaume 2012)

- (62) The use of an implicational universal to describe the distribution of RelN and GN involves an assumption that this distribution reflects **some unified phenomenon**: is this really the case?
- (63) At least some of the processes that give rise to the distribution are triggered by the fact that different elements within the various source constructions lose their original meaning and are reinterpreted as relative or possessive markers:

- This is plausibly because the relative clause meaning or the possessive meaning is part of, or can be inferred from the global meaning of different source constructions, and there is no evidence that the various processes of inference should be driven by some general principle independent of specific source constructions.

(64) Individual configurations described by the universal are directly motivated in terms of the properties of the source construction. Particular configurations originate differently in different cases, and not in the same way as other configurations:

- RelN and GN are due to the fact that, in the various source constructions, different elements that give rise to Rel and G are all preposed to the elements that give rise to N, and there is no evidence that the orders of these elements reflects some general principle.
- When RelN and GN co-occur, this can be a result of

- different source constructions each giving rise to both RelN and GN;
- the combination of different processes giving rise to either RelN or GN from other source constructions.
- A number of source constructions will give rise to GN in the absence of RelN, e.g. through the evolution of locative and dative elements into possessive markers ((65), (66)). These may or may not be the same as those that give rise to GN in the presence of RelN.

There is no obvious evidence, then, that the distributional pattern described by the universal is motivated by some general principle independent of specific source constructions.

Mandinka (Niger-Congo)

- (65) (a) à **la**     *jòŋo*  
3 POSS slave  
'his slave' (Creissels 2001: 446)



(b) *X la Y*

*X at Y*

‘The Y at X’s’ (Creissels 2001: 454)

Baka (Ubangi, Niger-Congo)

(66) *pe dínó òngò*

to baby dress

the clothes of the children’ (Heine 1997)

(67) Thus,

- The distribution of RelN and GN can be described in term of an implicational universal referring to RelN and GN in general.
- However, this does not correspond to a specific (unidirectional) dependency relationship between RelN and GN in themselves: the distribution is actually a result of specific processes that give rise to RelN

and GN, and these processes need not reflect some unified phenomenon, nor be motivated by properties of ReIN and GN in themselves.

- So it is not really meaningful to describe the distribution in terms of an implicational relationship between ReIN and GN, and the effects of different diachronic processes and source constructions should be disentangled when trying to account for the distribution.

(68) Concluding remarks: From synchronically oriented typology to source oriented typology:

- Diachrony suggests that the distributional patterns described by implicational universals emerge as a combined result of several distinct processes, which do not obviously reflect a unitary pattern and may be motivated in terms of the properties of specific source constructions, rather than properties of the resulting synchronic patterns.
- In this respect, the use of implicational universals to describe the synchronic patterns is misleading, in the sense that these patterns, **as described by the universal**, are usually assumed to be theoretically meaningful in themselves. This obscures the effects of different, independently motivated processes that actually give rise to, and plausibly provide an explanation for the patterns.
- In fact, synchronically based explanations of implicational universals do not account for some aspects of the relevant distributions:

- If there is a unidirectional dependency relationship between the two terms A and B of a universal  $A \rightarrow B$  (e.g. overt marking for singular and overt marking for plural), then it is not clear why this relationship should not hold in specific cases:
  - \* Sometimes A arises in the absence of B (e.g. overt singular marking arising in the absence of overt plural marking). This results in exceptions to the universal and goes against the idea that A is dependent on B and represents an exception to the universal.
  - \* In some cases, B would't arise in the absence of A (e.g. constructions that give rise to both singular and plural), which does not result in exceptions to the universal, but goes against the idea that **B in itself** is independent of A.
- However, if the pattern described by the universal is a result of of several distinct processes, not motivated by a relationship between A

and B in themselves, then these cases pose no problem, because different processes will yield different synchronic configurations (then one needs to account for the relative frequency of individual processes, but this is a separate issue).

- All this calls for a source oriented approach to implicational universals (and typological universals in general: see Blevins 2004 for such an approach in phonology): explanations for individual universals should refer to the specific source constructions and developmental processes that give rise to the relevant patterns (as well as the frequency of these constructions and processes), rather the synchronic properties of the pattern in themselves.

# Abbreviations

ACC	accusative	GL	goal	PAST	past
AOR	aorist	IMP	imperative	PL	plural
AUX	auxiliary	IMPF	imperfect	POSS	possessive
C	common	INF	infinitive	PRES	present
CAUS	causative	LIG	ligature	PTCPL	participle
CF	counterfactual	LOC	locative	REC	recent
DAT	dative	M	masculine	REL	relative
DEP.FUT	dependent future	MO	motion	SG	singular
DISTR	distributive	NON-SG	non-singular	SG	singular
F	feminine	NONPL	non-plural	SRC	source
GEN	genitive	OBJ	object	TOP	topic
		OBL	oblique		

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