

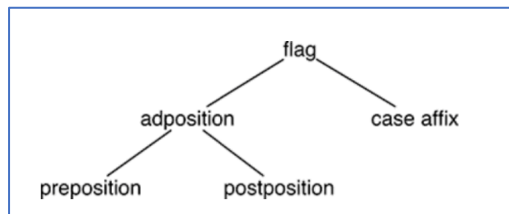
### 3. Universals of argument flagging

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argument **coding** = argument **flagging** (= case-marking and adpositional marking) and argument **indexing**

(see Haspelmath 2019a on flagging and indexing)



(Croft 2022: §4.3)

Three main points in this chapter:

- the main flagging patterns can be explained by functional efficiency (§1)
- the efficiency explanation relies on general grammatical concepts (“comparative concepts”) (§4)
- approaches such as those by Mel’čuk and Baker make use of concepts that are not defined uniformly across languages, making it very hard to test them (§5-6)

#### 1. Flagging in the alignment macro-types

##### 1.1. Accusative, ergative and neutral alignment

**accusative pattern:** transitive P (patient) gets a special marker (**accusative** marker)  
transitive A (agent) is marked like the intransitive subject

(1) Latin (Napoli 2018: 64, 62)

a. *ille fugit periculo*  
he.NOM escaped danger  
‘he escaped from danger’

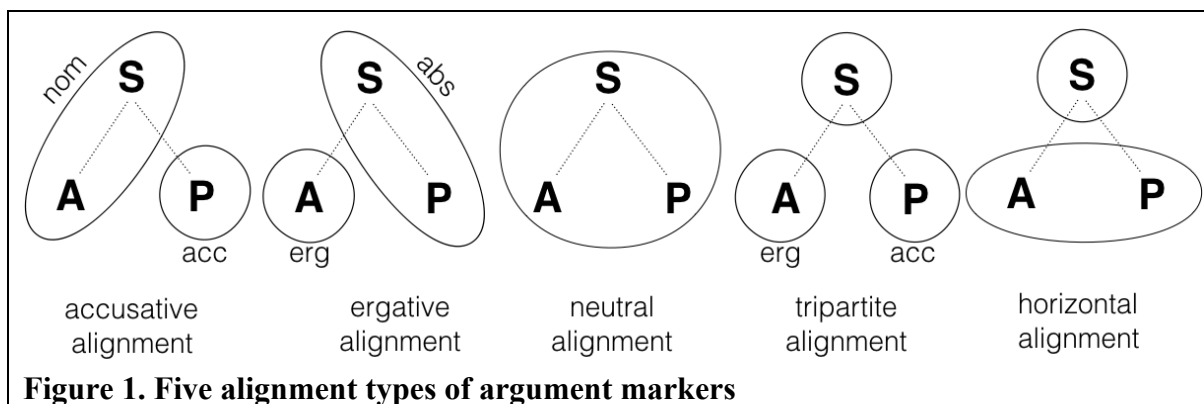
b. *ill-um ex periculo eripuit*  
he-ACC from danger rescued.3SG  
‘he rescued him from danger’ (Caes. *Gall.* 4, 12, 5)

**ergative pattern:** transitive A (agent) gets a special marker (*ergative* marker)  
transitive P (patient) is marked like the intransitive subject

(2) Kavalan (a language of Taiwan; Liao 2004: 214-215)

a. *Mawtu=ti a paqapaRan ta taiwan.*  
come=PRF ABS catcher LOC Taiwan  
'The catcher came to Taiwan.'

b. *Inebana=ti na hetay a rawang.*  
close=PRF ERG soldier ABS city  
'The soldiers closed the city (gate).'



**Universal 1: The accusative-ergative universal**

In all languages, if the coding is asymmetric, accusative and ergative flags are longer than nominative and absolutive flags (Comrie 1978; Dixon 1979).

Explanation: frequency-induced predictability

- because accusative is less frequent than nominative, and ergative is less frequent than absolutive

Moreover, **the only commonly occurring patterns are accusative, ergative and neutral.**

This has a well-known functional explanation:

- tripartite alignment is uneconomical, and horizontal alignment does not make the right distinctions.

## 1.2. Indirective, secundative and neutral alignment (in ditransitive constructions)

(2) indirective alignment: French

a. *Marie mange la soupe.*  
 Marie eats the soup  
 P

‘Marie is eating the soup.’

b. *Marie donne la soupe à sa mère.*  
 Marie gives the soup to her mother  
 T R

‘Marie is giving the soup to her mother.’

(4) neutral alignment: Diyari (Austin 1981: 115)

a. *nhulu wanku-yali mankarra-wurla-nha nyayinyayi-yi*  
 ART.NF.ERG snake-ERG girl-DL-ACC watch-PRS  
 P

‘The snake watched the girls.’

b. *nhulu pulanha nhinha putu yingki-rna wara-yi*  
 3SG.NF.ERG 3DL.ACC ART.NF.ACC thing.ACC give-PTCP AUX-PRS  
 R T

‘He gave them (two) that thing.’

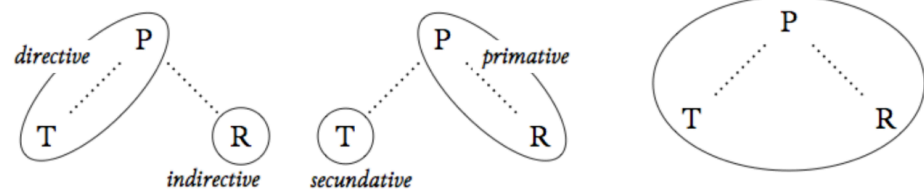
(3) secundative alignment: Yoruba (Rowlands 1969: 20-21)

a. *Ó pè mí.*  
 she call me  
 P

‘She called me.’

b. *Ó fún mi l’ ówo.*  
 he give me SEC money  
 R T

‘He gave me money.’



### Universal 2: The indirective-secundative universal

In all languages, if the coding is asymmetric, indirective and secundative markers are longer than directive and primitive markers (Malchukov et al. 2010; Haspelmath 2015).

Explanation: as above (frequency-induced predictability)

Two striking features of these universals:

- they are based on the notion of **flag** (a **concrete form**), rather than on abstract “case assignment”
- they are based on a view of core argument marking in which S=A alignment and S=P alignment **are treated on a par** – accusative and ergative are mirror-image concepts, with no preference for the European-style accusative pattern

### 1.3. Accusative and ergative case assignment in the dependent case theory (DCT)

What I like about Baker's (2015) dependent case theory (DCT) is that it treats accusative and ergative case on a par:

- (2) a. If NP1 c-commands NP2 in the same domain, then assign NP2 *accusative*.  
 b. If NP1 c-commands NP2 in the same domain, then assign NP1 *ergative*.  
 (Baker & Bobaljik 2017)

## 2. Differential ergative and accusative marking (“coding splits”)

Differential marking is often conditioned by **referential prominence**:

differential A marking is found primarily with low-prominence A-arguments

- 3rd person (1st/2nd person)
- inanimate (vs. animate)
- indefinite/focus (vs. definite/topic)

(5) Godoberi (Nakh-Dagestanian; Kibrik (ed.) 1996: 108)

- a. *imu-di*    *ʕali*    *č'inni*  
 father-ERG Ali(ABS)beat.PST  
 ‘Father beat Ali.’
- b. *min-Ø*    *ʕali*    *č'inni*  
 you-ERG Ali(ABS) beat.PST  
 ‘You beat Ali.’
- c. *imu-di*    *min*    *č'inni*  
 father-ERG you(ABS) beat.PST  
 ‘Father beat you.’

This pattern is a universal tendency (cf. DeLancey 1981; Schmidtke-Bode & Levshina 2018), and it can be generalized as follows:

**Universal 3. The role-reference association universal (Haspelmath 2021)**  
 Deviations from usual associations of role rank and referential prominence tend to be coded by longer grammatical forms if the coding is differential.

e.g. differential P marking for definite or animate nominals

- (6) Spanish  
 a. *Veo la casa.*  
 I.see the house.  
 ‘I see the house.’

- b. *Veo a la mujer.*  
 I.see ACC the woman.  
 ‘I see the woman.’

e.g. differential (ditransitive) R marking for indefinite nominals (Haspelmath 2007)

- (7) a. *She gave Ø-him money.*  
 b. *She gave the money to a distant relative.*

**A and R** are usually associated with **high** referential prominence.  
**P and T** are usually associated with **low** referential prominence.

This is a frequency effect:

“**Usual association**” means that these associations are the most frequent ones, and hence the most **predictable** – which means that it is efficient if they get **less coding** than the less predictable meanings.

Haspelmath (2021): Differential (or split) coding is explained by the efficiency theory of asymmetric coding.

### 3. Evolutionary and efficiency-based perspectives

Jackendoff (2007: 30-31):

What then is the source of language universals? Some of them will indeed be determined by UG, for instance the overall “architecture” of the grammatical system: the parts of the mental grammar and the relations among them (of which much more below). Other universals, especially what are often called “statistical” or “implicational” universals, may be the result of biases imposed by UG. For instance, UG may say that if a language has a case system, the simplest such systems are thus-and-so. These will be widespread systems crosslinguistically; they will be acquired earlier by children; and more complex systems may tend to change toward them over historical time. Other universals may be a consequence of the functional properties of any relatively efficient communication system: for instance, the most frequently used signals tend to be short. UG doesn’t have to say anything about these universals at all; they will come about through the dynamics of language use in the community (a process that of course is not very well understood).

Vaux & Myler (2018: 154):

One should also be skeptical of OT's driving assumption that cross-linguistically avoided configurations and cross-linguistically common processes all need to be manifest in some way in synchronic grammar, and that in general the theory of grammar is the appropriate locus of explanation for these typological generalizations. The perceived need to formulate all explanation in terms of synchronic teleology also fuels the OT account for conspiracies, and the critique of RBP based on them. We believe that in general the phenomena attributed to such teleology by OT are better accounted for within a diachronic/evolutionary approach to phonological typology, as pioneered by such works as Ohala (1972, 1975, 1981, 1989, 2005); Blevins (2004); and Ritt (2004) (see also section 7.3). On this view, the locus of typological explanation lies outside of the phonological grammar *per se*, and thus the argument from conspiracies against RBP is neutralized.

#### 4. S, A and P:

##### **Comparative concepts for argument classes (“syntactic functions”)**

But how do we identify S, A, P, as well as T and R, which figure in the universals?

Comparison of languages must be based on uniform “units of measurement” – in other words, the concepts which we use to compare languages must be identified **in the same way in all languages** (Haspelmath 2010; 2018a)

This is what I call “**measurement uniformity**” (in contrast to “building block uniformity”, as widely adopted in generative grammar; Haspelmath 2019b).

Comrie (1978), Lazard (2002), Haspelmath (2011):

- A is the agent argument of a physical-effect verb like ‘kill’ or ‘break’ (in the usual construction), plus verbs with the same coding
- P is the patient argument of such verbs
- S is the argument of a change-of-state verb like ‘fall’ or ‘die’, plus verbs with the same coding

(Haspelmath 2011)

These comparative concepts can be applied to all languages **uniformly (= using the same criteria)**, because all languages have verbs with these meanings and have nominal arguments with particular coding properties.

One might also use more **fine-grained semantic roles** (verb-specific roles, “microroles”), as in Hartmann et al. (2014):

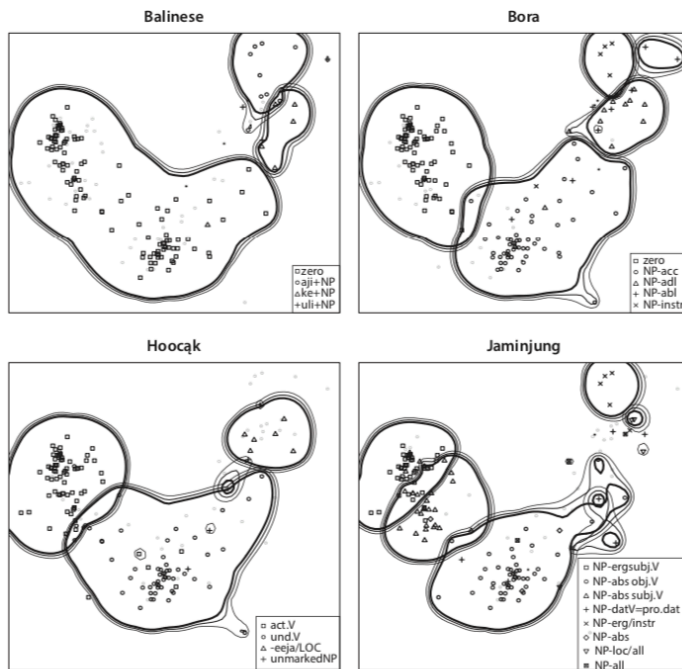


Figure 5. Four additional languages showing different distributional ranges of coding sets

This allows us to compare languages without reference to:

- constituent structure (cf. the notion of “external argument”, based on a VP notion)
- “transitivity”
- “grammatical relations” (= syntactic functions) such as subject and object

Much of the literature relies on such notions, e.g.

Baker & Bobaljik (2017: §5.1):

“The problem is that ergative and absolutive cases simply do not align with the grammatical functions of subject and object.”

Deal (2015: 654):

### 1. Introduction: three ergativity properties

The study of ergativity is concerned with ways in which languages show one or more of the following properties:

#### (1) Ergativity properties

##### a. *The ergative property*

Subjects of transitive clauses behave differently from subjects of intransitive clauses for some grammatical generalization(s).

##### b. *The absolutive property*

Objects of transitive clauses and subjects of intransitive clauses behave identically for some grammatical generalization(s).

##### c. *The argument-structural property*

Subjects of unaccusative verbs behave differently from subjects of unergative and transitive verbs for some grammatical generalization(s).

That we should avoid reliance on traditional notions such as “subject” had become clear by the late 1970s. Some of the important articles were:

- Blake (1976)
- Silverstein (1976)
- Foley & Van Valin (1977)
- Comrie (1978)
- Moravcsik (1978)
- Dixon (1979)

Dixon, Blake and Comrie introduced S, A and P in order to avoid a Eurocentric view of ergative clause constructions.

## 5. Are ergative clauses transitive? (Comments on Mel’čuk)

This depends on the definition of “transitivity”...

Igor A. Mel’čuk (\*1932) was a visiting professor at the University of Vienna in 1983, when I was a first-year student there.

There I learned about Mel’čuk (1981), a paper about Lezgian, with a fascinating theory of Lezgian clause structure:

Mel’čuk claimed that Lezgian has no transitive ergative construction, but that its Ergative-marked argument, as seen in (1), is an oblique causal complement!

- (8)    Алиди кицІ    кьена  
       *Ali-di*        *kic’*    *q’e-na*.  
       Ali-ERG        dog    kill-AOR  
       ‘Ali killed the dog.’

Basically, **all Lezgian clauses are claimed to be intransitive**. Clause (1) literally means ‘The dog died through Ali’. (See also Mel’čuk 1988; 2013.)

In one of my first journal papers (Haspelmath 1991), I tried to show that this was wrong. (8) was in fact a transitive clause – but how could I tell?

What is a “transitive clause”, in general?

According to Mel’čuk an *ergative construction* must have ergative marking on the *subject* – and he is not convinced that the ergative nominal in (8) is a subject.

But what is a “subject”, in general?

Many authors define “subject” in such a way that **different criteria** are applied in **different languages**:



Mel'čuk (2013: x):

“...the SyntSubj [is] cross-linguistically universal. However, in a different sense, the SyntSubj is **language-specific in so far as syntactic privileges are different in different languages**: thus, in many Indo-European languages the main privilege of a clausal element is to impose agreement on the Main Verb, while in Malagasy it is to occupy the clause-final position.”

Riesberg et al. (2019: 524)

“We use the term ‘subject’ here as equivalent to what is termed ‘privileged syntactic argument’ (PSA) in Van Valin (2005) and elsewhere. A PSA is defined as the syntactic element that **controls coding properties such as agreement and that is the pivotal element in complex constructions such as relativization, NP deletion, control, and so forth.**”

This procedure is unlikely to pick out uniform phenomena across languages – if different subjects may be recognized by different criteria, how do we know that they are all “subjects”? (By persuasion? cf. Haspelmath 1991)

In Haspelmath (2011), I suggested definitions of “transitive” and “subject” in terms of A and P:

- a *transitive clause* is a clause with A and P (by definition)
- a *subject* is an S or A argument (by definition)

Another example of an unexpected view of transitivity: Legate (2012: 184):

“Warlpiri ... allows two-argument verbs with an ergative-dative case frame, indicating that a dative DP can satisfy the transitivity restriction.”

- (5) a. ERG-DAT  
 Ngarrka-ngku-rla-jinta marlu-ku pantu-rnu, [marna nga-rminja-kurra(-ku)].  
 man-ERG-3DAT-DAT kangaroo-DAT spear-PAST, grass-ABS eat-INFIN-C-(DAT)  
 ‘The man speared at the kangaroo eating grass.’ (Simpson and Bresnan, 1983:54)

Legate refers to “a well-established test for objecthood in Warlpiri” (the use of particular subordinators), but such tests are not applicable to languages in general, so they do not lead to general conclusions.

## 6. Mark Baker’s analyses in terms of “dependent case”

Baker (2015) claims that grammatical case-marking patterns in the world’s languages are usually determined by dependent-case rules as in (2) or (9).

- (2) a. If NP1 c-commands NP2 in the same domain, then assign NP2 *accusative*.  
 b. If NP1 c-commands NP2 in the same domain, then assign NP1 *ergative*.

(Baker & Bobaljik 2017)

- (4) a. High case in the clause is ergative.  
 b. Low case in the clause is accusative.  
 c. High case in the VP is dative.  
 d. Unmarked case is nominative-absolutive. (simplified, Haspelmath 2018b)

Clause: NP → ERG  
 VP: NP → DAT  
 VP: NP → unmarked = ABS

*Ali-di za-z ktab wuga-na.*  
 Ali-ERG I-DAT book give-AOR  
 ‘Ali gave me a book.’

Baker (2015: 39):

subject of an intransitive verb. (21) shows simple examples from Lezgian, a language that has no overt agreement; the transitive subject in (21b) bears the distinctive ergative suffix *-a*.

(21) a. Farid ata-na-ni?  
 Farid.ABS come-AOR-Q  
 ‘Has Farid come?’  
 (Haspelmath [1993: 7])

b. Sadiq’-a jad qhwa-na.  
 Sadiq’-ERG water.ABS drink-AOR  
 ‘Sadiq’ drank water.’  
 (Haspelmeath [1993: 83])

One important feature that we want a general theory of structural case assignment to have is that it should account for ergative languages/patterns as well as accusative ones without implausible theoretical gymnastics, given that some 35 percent of languages with overt case marking are ergative, and such languages are found on at least four continents.<sup>9</sup>

A problem with Baker’s approach:

Like Mel’čuk in his identification of subjects, Baker allows different criteria in different languages – and this leads to speculative analyses.

### **Baker on PPs:**

Baker (2015: 185-186) observes that neither PPs nor oblique-marked nominals trigger ergative case on the subject:

c. Ahwmad suona ulul laatt.  
 Ahmed.ABS I.DAT next.to stand-PRES  
 ‘Ahmed is standing next to me.’  
 (Ingush, Nichols [2011: 401])

- a. Jose-(\*kan) ochiti-ki raket-ai. (Shipibo)  
 José-(\*ERG) dog-DAT fear-IMPF  
 ‘José fears the dog.’

But his theory predicts that *Jose* should be ergative because the object nominal is not a PP. So he hypothesizes that these are in fact PPs, with an empty adposition that assigns oblique case.

Baker posits not only empty adpositions (in PP) that assign case, but also surface adpositions that are really case forms (in NP), and surface case forms that are really adpositions (in PP) (p. 2, p. 9).

For such cases, he says that “the theory will have to decide (p. 13)”  
 (i.e. the theory is not motivated here).

But one can “hope that one can find some fine-grained syntactic properties which distinguish the two kinds [...]: a process of clefting, perhaps, or quantifier floating – the sorts of syntactic phenomena known to apply to NPs but not to PPs in some languages”

### **Baker (2015: 222) on case of predicate nominals:**

- NP  
 NP
- (5) *Zi buba Joxanes kešiš ja.*  
 my father(ABS) Johannes(ABS) priest(ABS) COP  
 ‘My father Johannes is a minister.’ (from Haspelmath 1993: 311)

The subject nominal is “higher” than the predicate nominal – why doesn’t it bear Ergative case in Lezgian?

NP  
 EP  
 NP

This “E” (which projects an EP that prevents case assignment) is generally empty, but maybe attested in Tamil (affix *-aa* following the predicate nominal).

Baker’s methodological move:

Hypothesize that an underlying element exists, and look for phenomena that might match this phenomenon. If there is something to be found (whatever it may be), this is taken as confirmation.

This was called “**diagnostic-fishing**” in an earlier paper (Haspelmath 2018a: 102).

But **confirmation bias** is one of the best-known problems in all domains of knowledge acquisition. If there is no objective method of **measuring** and counting effects, one can easily be led astray.

## 7. Measurement uniformity and building-block uniformity

Like almost all generative grammarians, Baker assumes **building-block uniformity**: All languages are basically made from the same innate building blocks.

An alternative (suggested here) is to have two different sets of concepts:

- descriptive categories for language-particular generalizations
- comparative concepts for **measurement uniformity**

(Haspelmath 2010; 2018a)

Language-particular research creates <b>language-particular theories</b> .
Comparative research creates <b>comparative and general theories</b> .

The difference between generative (Baker-style) comparative grammar and Greenberg-style comparative grammar is that Baker-style comparison relies on innate building blocks, while Greenberg-style comparison does not.

It's a difference in **methodological choices (not ideologies)**.

In chemistry, the building-block uniformity approach has worked well (cf. Mendeleev's Periodic Table of Elements). It is conceivable that it will work in linguistics as well – I call it the **Mendeleevian Vision** (cf. Baker 2001).

But measurement uniformity is the more tractable approach, which allows us to engage in systematic and quantitative language comparison (e.g. Skirgård et al. 2023).

## 4. Universals of reflexive marking

### 1. Types of reflexive construction markers

Many languages have special reflexive construction markers, with two main types (Faltz 1977):

– verbal REFLEXIVE VOICE MARKERS

e.g. Finnish	<i>riisu-a</i>	‘undress (someone)’
	<i>riisu-utu-a</i>	‘undress (onself)’

– REFLEXIVE NOMINALS (often called “reflexive pronouns” or “anaphors”).

e.g. Persian	<i>xod</i>	‘self’
	<i>u xod-râ košt</i>	
	he self-ACC killed	
	‘he killed himself’	

Almost all research on these forms has been on particular languages, focusing on language-particular analyses, especially:

**general meanings** of (“polysemous”) reflexive voice markers that coexpress a variety of individual functions  
(e.g. Geniušienė 1987; Kemmer 1993; Beavers & Udayana 2023)

**syntactic conditions** on reflexive nominals (“anaphors”)  
(e.g. Reinhart 1983; Lust et al. 2000; Büring 2005; Reuland 2011)

Some earlier research on **universals of coexpression patterns** (or multifunctionality patterns), especially Kemmer (1993). See also Schladt (1999) and König et al. (2005) for reflexive nominals derived from body-part terms and self-intensifiers.

## 2. Four universals of reflexive marking

- three striking universals refer to the **length** of anaphoric forms, in cases of asymmetric coding: (1)-(3) (Haspelmath 2008); another universal has no immediate explanation: (4)

- (1) Reflexive forms for **extroverted** actions tend to be longer than for **introverted** actions  
(cf. Russian *myt'-sja* 'wash (onself)' vs. *nenavidet' sebja* 'hate oneself')
- (2) **Reflexive pronouns** tend to be longer than **nonreflexive** anaphoric pronouns  
(cf. English *her-self* vs. *her*)
- (3) Coreferential pronouns in **object** function tend to be longer than in adnominal **possessive** function  
(cf. English *she lost her(\*self's) umbrella* vs. *she lost her-self*)
- (4) If a language has a reflexive **voice marker**, one of its uses is for **agent-patient** coreference  
  
(e.g. Kolyma Yukaghir (Russian Far East)  
*tudel met-juø-j*  
he REFL-see-3SG:INTR  
'He sees himself'; Maslova 2003: 227)

- the length universals can be explained by a general **principle of efficient coding**: frequent and predictable information is coded by short forms or zero
- it is unclear whether these universals follow from any of the “binding theories”, which are often very detailed, but which have been tested thoroughly only on a few languages

A few more intriguing universals from Haspelmath (2023) – only Universal XI seems to have a chance of being explainable by a “binding theory”:

### Universal IV

If an anaphoric pronoun may also be used as a demonstrative, it is always obviative in the agent-patient domain.

### Universal V

If a language has nonreflexive object indexes (= bound object person forms), these cannot be used subject-coreferentially in the agent-patient domain.

### Universal IX

If a language has a reflexive pronoun in the long-distance domain, it also has a reflexive pronoun in the agent-patient domain. (Haspelmath 2008: 58)

### Universal XI: Antecedent-reflexive asymmetry

In all languages, the antecedent is higher on the rank scale of syntactic positions than the reflexive pronoun:

(5) subject > object > oblique > within nominal/within embedded clause

- could perhaps be explained by the notion of “o-command” in HPSG (Pollard & Sag 1992; Müller 2021; but recall that the HPSG is not meant to be restrictive; Pollard 1997)
- could perhaps be explained by the notion of “binding”, which is based on the notion of “c-command” cf. Truswell (2014):  
“X binds Y iff Y is anaphorically related to X and X c-commands Y”

But it seems likely that some **substantive notion of “salience” or “topicality”** will eventually be found to play a crucial role – the syntactic rank scale in (5) is otherwise known to be strongly associated with topicality (e.g. Croft 2022).

### 3. Forms of reflexive markers worldwide

Here I report on a study of reflexive construction markers in 50 languages worldwide, from 50 unrelated language families (in order to minimize genealogical bias).

Coptic, Ganj, Koyra Chiini, Krongo, Ma'di\*, Mandinka\*, Nzadi, Sandawe, Ts'ixa, Bininj Gunwok, Kayardild, Martuthunira, Wambaya, Bardi, Basque\*, Burushaski, Icelandic\*, Korean, DGS\*, Lezgian, Mandarin Chinese, Kannada, Yukaghir Kolyma, Musqueam Halkomelem, Itzaj, Kalaallisut, Keres (Laguna), Maricopa, Ute, Wappo, Zoque (Chiapas), Creek, Indonesian\*, Komnzo, Lavukaleve, Mauwake, Motuna, Coastal Marind, Teiwa, Ulwa, Cavineña, Hup, Karajá, Mapudungun, Garifuna, Panare\*, Quechua (Yauyos), Yurakaré, Aguaruna

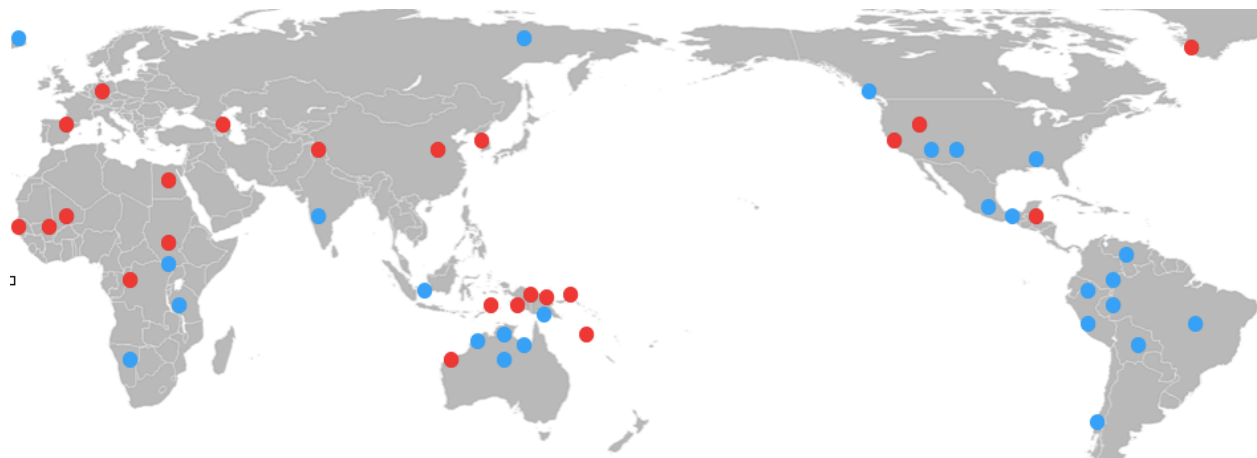


#### 4. The semantic-role universal

A first universal concerns reflexive voice markers, i.e. affixes that occur on verbs:

(4) If a language has a reflexive voice marker, one of its uses is for agent-patient coreference.

26 languages with a reflexive voice marker in my sample of 50 languages:



This finding is not surprising, and it is not very certain, because the descriptions rarely say specifically which kinds of semantic-role combinations are possible with reflexive voice.

Often they give only one or a few examples, e.g.

(5) a. Garifuna (Arawakan)

*n-asáfura-gu-nya n-ún-gwa*

1SG-save-REFL-PROG 1.SG-to-REFL

'I am saving myself.' (Haurholm-Jensen 2020: 142)

b. Kolyma Yukaghir (Russian Far East)

*tudel met-juø-j*

he REFL-see-3SG:INTR

'He sees himself.' (Maslova 2003: 227)

c. Hup (Nadahup)

*tih hup-kit-iy*

3SG REFL-cut-DYNM

'He cut himself.' (Epps 2008: 479)

d. Motuna (South Bougainville)

*monomono-roo*

look.at-2SG.MIDDLE.IMP

'Look at yourself carefully.' (Onishi 2012: 269)



## An interlude: Ken Hale and Barbara Partee, on “typology” and “theory”

Course announcement by Ken Hale, 1978 or 1979:

This year has seen a number of important publications in language typology. Greenberg's Stanford Project on language universals has published its findings (Greenberg, Joseph H. (ed.) *Universals of Human Language*, four volumes, Stanford University Press, 1978) and a book of essays on typology in syntax has appeared under the editorship of Lehmann at Texas (Lehman, Winfred P. (ed.) *Syntactic Typology*, University of Texas Press, 1978).

Much of this work employs a methodology which gives typology a central position in linguistic theory:

data  $\rightarrow$  typology  $\rightarrow$  theory

That is, typology consists in generalizations deriving from observations of primary linguistic data, and linguistic theory consists of a model of language design deriving from a typology of the world's languages.

In this course, I will review some of this recent work, much of which is excellent and insightful, and I will argue for a somewhat different approach to typology:

data  $\leftrightarrow$  theory  $\rightarrow$  typology

Here, typology does not exist as an autonomous entity but, rather, is the product of linguistic theory.

By contrast, I would say that the pathway should be:

data  $\rightarrow$  comparison  $\rightarrow$  theoretical explanation  
comparative concepts  $\rightarrow$

From Barbara Partee's course handout, HSE Moscow, 2014

[https://people.umass.edu/partee/HSE\\_Web\\_14/materials/index.html](https://people.umass.edu/partee/HSE_Web_14/materials/index.html)

### 1. Background: typology and theory

Typology and theory are intimately linked, and this is especially clear in the study of anaphora!

What has to be explained: Different languages have different kinds of pronouns and reflexives, but systems of anaphoric expressions are remarkably similar. A good theory of anaphora should include a basis for predicting what kinds of pronouns and reflexives are possible in human language and what kinds are not. Testelets, Lecture 1, gives clear examples of “imaginable” systems which never occur, and which linguists quite confidently predict will never be found.

A theory which is too constrained will be falsified by anaphoric systems it predicts to be impossible. That happened with Chomsky's original Binding Theory: since Principle A and Principle B operated in the same domain, it predicted that pronouns and reflexives should always be in complementary distribution, which is not true, even in English (Section 2).

A theory not constrained enough may not be “falsified” directly, but it may predict *too many* possibilities, and will fail to explain why we find just the patterns that we do.

A theory based on wrong notions, or missing important “right ideas”, may fail in both ways. Without a wide array of typological data, it's hard to distinguish “right ideas” from “wrong ideas”. Without a rich theoretical framework, it's hard to understand the data and draw the right kinds of typological generalizations. Great progress on both fronts in recent decades.

But where exactly can we see the progress? (Apart from Kiparsky 2002; 2012; which has had hardly any impact). Textbooks still start where we left off in 1981...

## 5. The first length universal

(6) In all languages, the usual coding of **disjoint anaphoric reference** is at least as short as the usual coding of **agent-patient coreference** (cf. Haspelmath 2008: 48).

### Some languages with reflexive nominals:

	reflexive nominal	disjoint object pronoun
Basque	<i>burua</i>	(indexing)
Ganja (Atlantic)	<i>bgɔ</i>	(indexing)
Indonesian	<i>diri</i>	<i>dia, -nya</i>
Itzaj (Mayan)	<i>-b'aj</i>	(indexing)
Kalallisut	<i>immi-</i>	(indexing)
Krongo	<i>òonó</i>	<i>ì?ìη, àakù, àay</i>
Lezgian (Dagestanian)	<i>wič</i>	<i>am</i>
Kannada	<i>tann-annu</i>	<i>ad-annu</i>
Korean	<i>caki</i>	( $\emptyset$ )
Mandarin Chinese	<i>(tā) zìjì</i>	<i>(tā)</i>
Nzadi (Bantu)	<i>ndé-ηgizyâ</i>	<i>ndé</i>
Teiwa (Alor-Pantar)	<i>exan</i>	(indexing)
Ulwa (Ulmapo)	<i>ambī</i>	(indexing)
Wappo	<i>may'</i>	<i>te</i>

→ When there is a reflexive nominal, the object pronouns or object indexes are usually shorter than the reflexive nominal, and **never longer**.

### Some languages with reflexive voice markers:

	voice marker	disjoint object pronoun
Bardi (Nyulnyulan)	<i>ma-V-inyji</i>	( $\emptyset$ )
Creek (Muskogean)	<i>i:-V</i>	<i>ca-/ci-/<math>\emptyset</math>-</i>
Garifuna (Arawakan)	<i>V-gwa</i>	<i>-i/-u/-nya</i>
Kolyma Yukaghir	<i>met-V</i>	( $\emptyset$ )
Maricopa (Yuman)	<i>mat-V</i>	( $\emptyset$ )
Motuna	<i>V-mor/-ror</i>	<i>-m/-r</i>
Quechua	<i>V-ku</i>	<i>-ma/-yki/-<math>\emptyset</math></i>
Sandawe	<i>V-ts'i</i>	( $\emptyset$ )
Wambaya (Mirndi)	<i>V-ngg</i>	<i>V-ng/V-ny/V-<math>\emptyset</math></i>
Yurakaré	<i>V-të</i>	<i>ti-/mi-/<math>\emptyset</math>-</i>

→ When there is a reflexive voice marker, the language either has object indexes (which are not longer than the voice marker) or optional object pronouns which are limited to contrastive uses.

## 6. The second length universal

(7) If a language uses different constructions for agent-patient coreference for different verb types, then it uses shorter markers for **introverted** verbs than for **extroverted** verbs (cf. Kemmer 1993: König & Vezzosi 2004).

Introverted verbs: – grooming verbs like ‘wash (oneself)’, ‘dress (oneself)’  
– body motion verbs like ‘turn (oneself)’, ‘sit (oneself) down’

Kemmer (1993: §2.2): “light forms” vs. “heavy forms”:

	<b>light/short</b>	<b>heavy/long</b>
Russian	<i>-sja</i>	<i>sebja</i>
Dutch	<i>zich</i>	<i>zichzelf</i>
Djola	<i>-ɔ</i>	<i>-ɔrɔ</i>
Latin	<i>-r</i>	<i>se</i>
Turkish	<i>-In</i>	<i>kendi</i>

For seven of the 50 languages of my sample, two different constructions were found:

	<b>short</b>		<b>long</b>	
Ma'di	<i>ru</i>		<i>ani</i>	
Mandinka	<i>ij/i</i>		<i>faj-o</i>	
Basque	$\emptyset$		<i>burua</i>	
Icelandic	<i>-st</i>		<i>sig</i>	
DGS	$\emptyset$		(like disjoint)	
Indonesian	<i>ber-</i>		<i>diri</i>	
Panare	<i>Vs-V</i>		<i>-nkən</i>	
Panare	<i>i'nampa</i>	‘adorn’	<i>is-i'nampa</i>	‘adorn oneself’
	<i>o'nama</i>	‘move’	<i>as-o'nama</i>	‘move (oneself)’
	<i>inaami</i>	‘hide’	<i>it-inaami</i>	‘hide (oneself)’
				(Payne & Payne 2013: 339)
Indonesian	<i>(men-)dandan</i>	‘dress’	<i>ber-dandan</i>	‘get dressed’
	<i>(men-)cukur</i>	‘shave’	<i>ber-cukur</i>	‘shave (oneself)’
	<i>(men-)jemur</i>	‘dry in the sun’	<i>ber-jemur</i>	‘sunbathe’
				(Beavers & Udayana 2023)
Mandinka	<i>kuu</i>	‘wash’	<i>i kuu</i>	‘wash (oneself)’
	<i>nukun</i>	‘hide’	<i>i nukun</i>	‘hide (oneself)’
				(Creissels 2015: 238)

By contrast, the longer forms are not lexically restricted in these languages, it seems (but again, the descriptions are rarely as detailed as one might wish).

## 7. The third length universal

(8) If a language uses different reflexive construction markers for **object** function and **adnominal possessor** function, then the adnominal possessor marker is shorter than the object marker.

This generalization is hard to test, because grammars do not often contain explicit information on subject-coreferential adnominal possessor forms. But I have not seen counterevidence to the claim that there are three types of languages:

### (I) languages with a reflexive adnominal possessor form

– (a) with the **same shape** as the object form

#### (9) Japanese

a. *Jon<sub>1</sub> wa Marii<sub>2</sub> to zibun<sub>1/\*2</sub>no ie de hanasi o si-ta.*  
 John TOP Mary with self GEN house in talk ACC do-PAST  
 ‘John had a talk with Mary in his/\*her house.’

b. *Ken wa zibun o seme-ta.*  
 Ken TOP self ACC blame-PAST  
 ‘Ken blamed himself.’

– (b) with a **different form**, of the **same length** as the nonreflexive form

#### (10) Evenki (Nedjalkov 1997: 144, 109)

a. *Nungan oro-r-vi etejet-chere-n.*  
 he reindeer-PL-REFL.POSS guar-PRS-3SG  
 ‘He<sub>1</sub> guards his<sub>1</sub> reindeer.’

b. ... *oro-r-in* ...  
 reindeer-PL-3SG  
 ‘his<sub>2</sub> reindeer’

c. *Asatkan ichevun-du me:nmi iche-re-n.*  
 girl mirror-DAT self see-NONFUT-3SG  
 ‘The girl saw herself in the mirror.’

### (II) languages with **no special reflexive form** (also in English)

#### (11) Akan (Faltz 1977: 170-181)

a. *John praa nẽ fie.*  
 John sweep.PAST 3SG.POSS house  
 ‘John<sub>1</sub> swept his<sub>1/2</sub> house.’

b. *Mary hũũ nẽ hõ.*  
 Mary see.PAST 3SG.POSS REFL  
 ‘Mary saw herself.’

What we don't find:

- languages that have reflexive forms **only for adnominal possession**
- languages with adnominal reflexive forms **longer than nonreflexive** (the opposite of the object function!)
- languages with adnominal reflexive forms **longer than object form**

## 8. The explanation in terms of coding efficiency

I propose the hypothesis that universals (3)-(5) can be explained by a general Zipfian principle of efficient coding: **Greater predictability results in shorter forms.**

- **disjoint reference is more expected** than coreference in agent-patient contexts, because coreference is rare in language use

e.g. *The girl saw her* is much more frequent than *The girl saw herself*.

(see Ariel 2008; Hendriks et al. 2008; 2015)

- **coreference is more expected** with **introverted verbs** (grooming verbs and body motion verbs) than with extroverted verbs

e.g. *The boy hid (himself)* is much more frequent than *The boy saw himself*.

(see Haspelmath 2008)

- **coreference is more expected** with **adnominal possessors** than with patients

e.g. *She<sub>1</sub> took her<sub>1</sub> umbrella* is much more frequent than  
*She<sub>1</sub> took his<sub>2</sub> umbrella*.

(see Haspelmath 2008)

These frequency differences lead to predictability differences, and these make it more efficient to have shorter forms in the contexts where we often see them (cf. Comrie 1999; Ariel 2008; Haspelmath 2008).

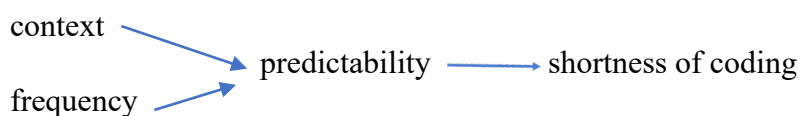


Figure 1: The causal chain leading to shortness of coding

## 9. Biocognitive explanations?

One might suggest that the explanation for some of these universal tendencies comes from “generative theory” (cf. Hale 1978, seen earlier).

The “binding theory” is often taken to be universal, or at least as a good start (Chomsky 1981, based on Reinhart 1976):

- (19) Principles of Binding Theory
- a. PRINCIPLE A - An anaphor is bound in its binding domain.
  - b. PRINCIPLE B - A pronoun is free in its binding domain.
  - c. PRINCIPLE C - An R-expression is free everywhere
  - d. The BINDING DOMAIN of X is the smallest phase that contains both X and a subject.

- But this does not predict that nonreflexive pronouns should be shorter than reflexive pronouns if the coding is asymmetric;
- And it is quite unclear whether it makes any cross-linguistic predictions, because the terms *anaphor* and *pronoun* are not defined – all we know is that English *himself* is an anaphor and *him* is a *pronoun*.
  - It seems that Reinhart’s and Chomsky’s formulations are very good for key aspects of English, but with no clear cross-linguistic generality.
- Even for English, its application is limited, because there seems to be no prediction for *her/his/their*:

*She<sub>1</sub> forgot her<sub>1/2</sub> umbrella.*

It seems that *his/her/there* is neither an anaphor nor a pronoun in English.

- The idea that “binding theory” is based on c-command derives from Reinhart (1976) and Chomsky (1981), but there are serious problems with c-command:
  - it does not work for some cases even in English (e.g. *\*We discussed Mary with herself*; Culicover & Jackendoff 2005: 121)
  - it does not work for reflexive adpossession markers in coordination constructions, as in Russian:

*Maxmud<sub>1</sub> i ego<sub>1/2</sub> brat prišli.*  
 Mahmud and his brother came.  
 ‘Mahmud and his brother came.’

(\**Maxmud i svoj brat prišli.*)

the second coordinand is generally thought to be c-commanded by the first

– it forces one to change the constituent structure in cases such as:

*Mary showed John himself.*  
 \**Mary showed himself John.*

(cf. Culicover & Jackendoff 2005: 118)

But if the constituent structure is determined by the binding facts, then it can no longer serve to explain it.

– c-command has been generally questioned (Bruening 2014), but apparently there is no active discussion of the issues – it is generally simply presupposed

Especially in a cross-linguistic context, given the much greater uncertainties about constituent structures in many other languages, it seems best to have a general theory that does not appeal to c-command.

Reinhart & Reuland (1993):

A: A reflexive-marked syntactic predicate is reflexive.

B: A reflexive semantic predicate is reflexive-marked.

This looks elegant, but it presupposes the distinction between

SELF anaphor and SE anaphors

(e.g. English *himself*/Dutch *zichzelf* vs. French *se* and Dutch *zich*)

– again, no clear cross-linguistic definition

## 10. Against a mutational explanation

One might suggest that the explanation for some of these universal tendencies lies in **constraints on possible language changes** (cf. Kiparsky 2008; Cristofaro & Zúñiga 2018; Cristofaro 2019).

After all, all current patterns have arisen through language change, and change is not teleological – speakers do not know which systems are beneficial to them, and they do not consciously change languages. Language change happens unintentionally through mechanisms like reanalysis and grammaticalization.

Can grammaticalization explain some of the patterns?

cf. the change from a full reflexive pronoun to a reduced one

(e.g. Latin *se* > Italian *si*, Proto-Germanic *sik* > Icelandic *-st*).

The answer is: NO

There are **a range of different pathways** through which asymmetric patterns can arise, always leading to the universals that we saw (cf. Kemmer 1993: Ch. 5 on different pathways for “middle voice” systems):

– addition of a self-intensifier to an anaphoric pronoun, e.g.

English	<i>her</i>	vs.	<i>her-self</i>
Nzadi	<i>ndé</i>	vs.	<i>ndé-ŋgizyâ</i>

– use of a ‘body’-type noun, e.g.

Ganja	<i>bgɔ</i>	‘head’
Basque	<i>burua</i>	‘head’
Maricopa	<i>mat-</i>	< <i>iimaat</i> ‘body’ (Gordon 1986: 65)

– use of multiple strategies at the same time, e.g.

Kannada  
*avanu tann-annu hodedu-konḍ-a*  
 he.NOM self-ACC beat-REFL.PST-3  
 ‘He beat himself.’ (Amritavalli 2000: 53)

– and occasionally even: the use of **anti-reflexive** marking, e.g. in Finnish

#### (9) Finnish

a. *Hän syö hän-en ruoka-nsa.*  
 she eats she-GEN food-3SG.POSS  
 ‘She<sub>1</sub> eats her<sub>2</sub> food.’

b. *Hän syö ruoka-nsa.*  
 she eats food-3SG.POSS  
 ‘She<sub>1</sub> eats her<sub>1</sub> food.’

Such cases of convergence of different source constructions toward the same kind of outcome can only be explained by **a result-oriented change process** (cf. Haspelmath’s 2019 notion of multi-convergence, forcing a result-oriented explanation).

I have not ruled out a biocognitive explanation in terms of an innate grammar blueprint (“UG”), but

– if a functional-adaptive explanation is available, it has **priority**, because it is **inherently more likely** (innate grammatical knowledge is hard to reconcile with Darwin’s Problem, cf. Berwick & Chomsky 2016).

However:

A grammar blueprint explanation may be appropriate for Universal XI (the generalization that the antecedent of a reflexive construction is always the agent/subject argument or an argument with some other high-ranked role). I do not know a good functional-adaptive explanation for this generalization.



## 11. Conclusion

- to understand the general behaviour of **reflexive forms** and **nonreflexive anaphoric forms**, we need to look at what is general about them in the world's languages
- three striking universals refer to the **length** of anaphoric forms, in cases of asymmetric coding:
  - reflexive forms for **extroverted** actions tend to be longer than for introverted actions  
(cf. Russian *myt'-sja* 'wash' vs. *nenavidet' sebja* 'hate oneself')
  - **reflexive pronouns** tend to be longer than **nonreflexive** anaphoric pronouns  
(cf. English *her-self* vs. *her*)
  - reflexive pronouns in **object** function tend to be longer than in adnominal possessive function
- the length universals can be explained by a general **principle of efficient coding**: frequent and predictable information is coded by short forms or zero
- In contrast to a widespread view, it is **not necessary to have “in-depth” analyses** of all languages before they can be compared – comparative studies can be based on surveying comprehensive grammatical descriptions in the world's languages.

BUT: These descriptions never answer all the questions that one might have, so other methods for cross-linguistic data collection are needed to complement this method, e.g. expert teams (cf. Janic et al. (eds.) 2023)

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