

1 Affix ordering

1.1 Auxiliaries and preliminaries

[Exercise 3]

What's the order of auxiliaries in English?

- (1) a. She will have be-en winn-ing the race.
b. *She has been will winning the race.
- (2) a. The cake will have be-en (be-ing) eat-en.
b. *The cake is having were been eat.

How each element fits with the others:

- _____
- _____

Representing this formally:

(3)

What's the order in Latin ([Embick 2010](#); [Kastner and Zu 2017](#); [Kastner 2019](#))?

- (4) a. *am-ā-ve-ra-m*
 $\sqrt{\text{LOVE-THEME-Perf-Past-1SG}}$
'I had loved'
- b. *am-ā-ve-r-ō*
 $\sqrt{\text{LOVE-THEME-Perf-Fut-1SG}}$
'I will have loved'

How does this compare to the order in English?

- It's the opposite _____.
- It's the same in terms of _____.

Summary

1.2 The Mirror Principle

1.2.1 Preliminaries

What's the order of the reciprocal and causative suffixes in Chichewa ([Alsina 1999](#))?

- (3) *Alenje a-na-mény-án-its-á mbûzi*
 2.hunters 2S-PAST-hit-RECIP-CAUS-FINVWL 10.goats
 'The hunters made the goats hit each other.'
- (4) *Alenje a-na-mény-éts-an-a mbûzi*
 2.hunters 2S-PAST-hit-CAUS-RECIP-FV 10.goats
 'The hunters made each other hit the goats.'

Here's another pair ([Hyman and Mchombo 1992](#)):

- (5) a. mang-**an**-its
 tie-RECIP-CAUS
 'cause to tie each other'
- b. mang-its-**an**
 tie-CAUS-RECIP
 'cause each other to tie'

What would this language (*Chichewa*) look like if it had prefixes instead of suffixes?

- (6) a. _____
 b. _____

Why? _____

Another example: Bemba in [Baker \(1985\)](#), citing [Givón \(1976\)](#).

- (49) a. *Naa-mon-an-ya Mwape na Mutumba*
 1S.S-PAST-see-RECIP-CAUS Mwape and Mutumba
 'I made Mwape and Mutumba see each other.'
- b. *Mwape na Chilufya baa-mon-eshy-ana Mutumba*
 Mwape and Chilufya 3p.S-see-CAUS-RECIP Mutumba
 'Mwape and Chilufya made each other see Mutumba.'

1.2.2 Passivizing

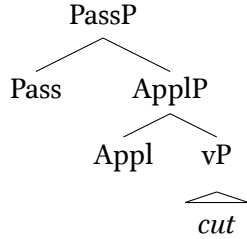
In Chichewa, the applicative can be used for instruments ([Alsina 1999](#)):

- (10) a. *Msōdzi a-na-dúl-ír-a nkhwângwa ukōnde*
 1.fisherman 1S-PAST-cut-APPL-FV 9.axe 14.net
 'The fisherman cut the net with an axe.'

Let's try to passivize: 'The axe was used to cut the net (by the fisherman)'. The instrument will become the subject (we'll get back to that in argument structure). What will be the ordering of APPL and PASS?

- (10) b. *Nkhwângwa i-na-dúl-ír-idw-á úkōnde (ndí msōdzi)*
 9.axe 9S-PAST-cut-APPL-PASS-FV 14.net by 1.fisherman
 ‘The axe was used to cut the net (by the fisherman).’

Schematic, ignoring the actual arguments:



Some more examples. Chi-Mwi:ni in Baker (1985) from Kisseberth and Abasheikh (1977):

- (56) a. *Nuru Ø-chi-tes-ete chibu:ku*
 Nuru s-O-bring-ASP book
 ‘Nuru brought the book.’
 b. *Nuru ø-m-tet-el-ele mwa:limu chibu:ku*
 Nuru s-O-bring-APPL-ASP teacher book
 ‘Nuru brought the book to the teacher.’
 c. *Mwa:limu ø-tet-el-el-a chibu:ku na Nuru*
 teacher s-bring-APPL-ASP-PASS book by Nuru
 ‘The teacher was brought the book by Nuru.’

Kinyarwanda in Baker (1985) from Kimenyi (1980):

- (57) a. *Umugabo a-ra-andik-a ibaruwa n’i-ikaramu*
 man s-PRES-write-ASP letter with-pen
 ‘The man wrote [sic] the letter with the pen.’
 b. *Umugabo a-ra-andik-iish-a ibaruwa ikaramu*
 man s-PRES-write-INSTR-ASP letter pen
 ‘The man wrote the letter with the pen.’
 c. *Ikaramu i-ra-andik-iish-w-a ibaruwa n’umugabo*
 pen s-PRES-write-INSTR-PASS-ASP letter by-man
 ‘The pen was written-with [sic] the letter by the man.’
 d. *Ibaruwa i-ra-andik-iish-w-a ikaramu n’umugabo*
 letter s-PRES-write-INSTR-PASS-ASP pen by-man
 ‘The letter was written with the pen by the man.’

1.2.3 Outside of Bantu

Yupik (Mithun 1999:43):

- (7) a. *ayag-ciq-yugnarqe-ni-llru-u-q*
 go-FUT-probably-claim-PAST-INDIC.INTR-3SG
 ‘He said he would probably go.’
 b. *ayag-ciq-ni-llru-yugnarqe-u-q*
 go-FUT-claim-PAST-probably-INDIC.INTR-3SG
 ‘He probably said that he would go.’

Oji-Cree (Slavin 2005) in Rice (2011):

(11) a. *ishkwaa-niipaa-sookihpaw*
finish-at.night-be.snowing

b. *nipaa-ishkwaa-sookihpaw*
at.night-finish-be.snowing

(11') a. *kiimooci-kishahtapi-wihsini*
secretly-fast-eat

b. *kishahtapi-kiimooci-wihsini*
fast-secretly-eat

Pulaar (Paster 2005), with comprehensive *id* 'all' and SEP *it* which denotes the reverse of the action (so 'open' + SEP = 'close').

(8) a. *mi udd-id-it-ii baafɛ dɛ fɔf*
1SG close-COM-SEP-PAST door Det all
'I opened [sic] all the doors (in sequence).'

b. *mi udd-it-id-ii baafɛ dɛ fɔf*
1SG close-SEP-COM-PAST door Det all
'I opened all the doors (at once).'

Here, REPetitive means 'again'. Assume that one of the following means 'make someone learn' and one means 'teach' - which is which?

(9) a. *o jaŋŋg-in-it-ii kam*
3SG learn-CAUS-REP-PAST 1SG

b. *o jaŋŋg-it-in-ii kam*
3SG learn-REP-CAUS-PAST 1SG

Summary

Interim summary and references

We have seen evidence for:

- Rigid ordering for some (inflectional?) categories, e.g. auxiliaries.
- Variable ordering depending on scope for some (inflectional?) categories.
- Affix order always respects semantic and morphological scope.

Key references:

1. Baker (1985) coined the Mirror Principle and is the canonical work on the topic.
 - Muysken (1981, 1988) was actually there first, at least in general linguistic publications.
 - Harley (2011) discusses different syntactic ways of deriving orders which obey or don't obey the Mirror Principle. Myler (2017) analyzes a counterexample to the Mirror Principle and argues that it isn't problematic after all.

2. The constraints on the ordering of auxiliaries in English go back to Syntactic Structures (Chomsky 1957). For a more contemporary introduction, see Adger (2003).
3. Rice (2011) is an excellent overview of different factors in affix ordering, based in part on Rice (2000).

1.3 Longer chains

- (10) a. Yupik (Mithun 1999)
ayag-yug-umi-ite-qapiar-tu-a
 go-want-be.in.state-not-really-INDIC.INTR-1SG
 'I really don't want to go.'
- b. Turkish (Inkelas and Orgun 1998:368)
çekoslovakyalılaştıramayacaklarımızdanmiydiniz

çekoslovakya li laş tir ama yacak lar imiz dan mi ydi niz
 Czechoslovakia from become CAUSE unable Fut PL 1PL ABL INTERR Past 2PL
 'were you one of those whom we are not going to be able to turn into Czechoslovakians?'

Japanese:

- (11) *taro-ga kodomo-o sodat-e-sase-rare-ta*
 Taro-NOM child-ACC rise-CAUS-CAUS-PASS-PAST
 'Taro was made to raise the child.'

What would a structure for this look like?

References

- Adger, David. 2003. *Core syntax: A Minimalist approach*. Oxford: Oxford University Press.
- Alsina, Alex. 1999. Where's the Mirror Principle? *The Linguistic Review* 16:1–42.
- Baker, Mark. 1985. The mirror principle and morphosyntactic explanation. *Linguistic Inquiry* 16:373–415.
- Chomsky, Noam. 1957. *Syntactic Structures*. The Hague: Mouton.
- Embick, David. 2010. *Localism versus globalism in morphology and phonology*. Number 60 in *Linguistic Inquiry Monographs*. Cambridge, MA: MIT Press.
- Givón, Talmy. 1976. Some constraints on Bantu causativization. In *Syntax and semantics 6: The grammar of causative constructions*, ed. Masayoshi Shibatani. New York, NY: Academic Press.
- Harley, Heidi. 2011. Affixation and the mirror principle. In *Interfaces in linguistics*, ed. Raffaella Folli and Christiane Ullbricht, 166–186. Oxford University Press.
- Hyman, Larry, and Sam Mchombo. 1992. Morphotactic constraints in the Chichewa verb stem. In *Berkeley Linguistic Society* 18, 350–364.
- Inkelas, Sharon, and Cemil Orhan Orgun. 1998. Level (non)ordering in recursive morphology: evidence from Turkish. In *Morphology and its relation to phonology and syntax*, ed. Steven Lapointe, Diane Brentari, and Patrick Farrell, 360–392. Stanford, CA: CSLI.

- Kastner, Itamar. 2019. Templatic morphology as an emergent property: Roots and functional heads in Hebrew. *Natural Language & Linguistic Theory* 37:571–619.
- Kastner, Itamar, and Vera Zu. 2017. Blocking and paradigm gaps. *Morphology* 27:643–684.
- Kimenyi, Alexandre. 1980. *A relational grammar of kinyarwanda*. Berkeley, CA: University of California Press.
- Kisseberth, Charles, and Mohammad Imam Abasheikh. 1977. The object relationship in Chi-Mwiini, a Bantu language. In *Syntax and semantics 8: Grammatical relations*, ed. Peter Cole and Jerrold Sadock. New York, NY: Academic Press.
- Mithun, Marianne. 1999. *The languages of native North America*. Cambridge: Cambridge University Press.
- Muysken, Pieter. 1981. Quechua word structure. In *Binding and filtering*, ed. Frank Heny, 279–327. London: Croom Helm.
- Muysken, Pieter. 1988. Affix order and interpretation: Quechua. In *Morphology and modularity*, ed. Martin Everaert and Mieke Trommelen, 259–279. Dordrecht: Foris.
- Myler, Neil. 2017. Exceptions to the ‘Mirror Principle’ and morphophonological ‘action at a distance’. In *The structure of words at the interfaces*, ed. Heather Newell, Máire Noonan, Glyne Piggott, and Lisa deMena Travis, 100–125. Oxford: Oxford University Press.
- Paster, Mary. 2005. Pulaar verbal extensions and phonologically driven affix order. In *Yearbook of morphology 2005*, ed. Geert Booij and Jaap van Marle, 155–200. Dordrecht: Springer.
- Rice, Keren. 2000. *Morpheme order and semantic scope*. Cambridge: Cambridge University Press.
- Rice, Keren. 2011. Principles of affix ordering: An overview. *Word Structure* 4:169–200. URL <http://dx.doi.org/10.3366/word.2011.0009>.
- Slavin, Tanya. 2005. Preverb ordering in Ojibwe. Ms., University of Toronto.