

Principles of affix ordering: an overview

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I. Introduction

1. The issue
 - a. Many languages allow a sequence of affixes that are not category changing.
 - b. In such cases, questions about their ordering arise:
How is the ordering of affixes that do not change category determined when there is more than one affix?
Put alternatively, how do affixes come to be linearized in the way that they are?
2. Some responses in the literature to the question of linearization
 - a. Derivation is ‘inside of’ inflection.
Question: What if there is more than one non-category changing derivational affix? inflectional affix?
If there is more than one non-category changing affix of a particular type, this generalization offers no possible account of affix order.
 - b. Affix ordering mirrors the syntax.
 - c. Affix ordering is attributable to the semantic property of scope.
 - d. Phonological factors determine the ordering of affixes.
 - e. Affix ordering is arbitrary from the perspective of general linguistic principles, and must be stipulated, at least from a synchronic perspective.
3. The focus of this talk
 - a. Non-category changing morphology
 - b. Synchronic accounts
 - c. Accounts based on linguistic principles (phonological, morphological, syntactic, semantic)
4. An overview
 - a. Possible accounts of morpheme order
Syntactic conditions: Mirror Principle
Semantic conditions: Scope (compositionality)
Phonological conditions
Template
 - b. A synthesis: interacting factors
 - c. What else is going on?

II. Syntactic and semantic factors

5. There is probably some agreement that syntactic/semantic factors are expected to control affix order.
6. A syntactic account
Mirror Principle (Baker 1988)
Morphological derivations directly reflect syntactic derivations (and vice versa).
Syntactic mechanisms are involved in getting the right order.
7. A semantic account
Scope/compositionality: Affixes with a more narrow scope appear in linear order closer to a root than affixes with a less narrow scope.
8. A diachronic account
Relevance (Bybee 1985): The order of morphemes within a word reflects an earlier ordering of words within a sentence. Words that function together in a sentence tend to occur together.
Implication: Affixes of greater relevance to the verb will generally occur closer to the verb stem; those of lesser relevance will generally occur at a distance.
9. Syntactic and semantic factors often overlap but can at times be teased apart. For instance, Paster 2005 attributes certain affix orderings in Pulaar to scope since argument structure is not involved.
10. Some empirical support for syntactic factors
Koyukon (Athapaskan)
 - a. Subjects and objects are in the order object – aspect – (participant) subject.
 - b. If semantic factors controlled the ordering of discourse participants, one might expect the position of affixes to be related to agent/patient, definite/indefinite, specific/non-specific, topic/focus, or something similar.
 - c. Evidence for fixed order: All subjects, including passive subjects, are marked in ‘subject position’, not in ‘object position’, despite their semantics.
Thus, we see a fixed order of the grammatical relations subject and object, not of semantic relations of some sort.
 - d. transitive subject **dee-n-'oyh** ‘you sg. will handle object’ Jetté and Jones 2000:780
intransitive subject **da-a-l-'onh** ‘you sg. are in position’ 779
transitive object **ne-heneel-'aanh** ‘they are looking at you sg.’ (469)
passive subject **eeteghee-l-dzes** ‘You will be hit once.’ (Thompson 1992: 360)
The subject precedes the verb stem; the object is further to the left.
11. Syntactic and semantic predictions overlap to a large degree, and I will not try to differentiate them.

12. A semantic account: What does scope mean?
- a. Compositionality, generality, specificity
 - b. Causal chain
CAUSE – SUBJECT – ACTION – INSTRUMENT – OBJECT – RESULT
Smith 1997:21: The “scheme is roughly iconic from left to right”, with the leftmost parts of the chain earlier in time to those to the right.
13. Evidence for syntactic/semantic constraints on affix order: Compositionality
Affixes occur in a particular order which conforms to intuitions about scope.
- a. Nuu-Chah-Nulth morpheme order (Wakashan, Wojdak 2008)
 ḡuč?in-siik-mit-siiš
 dress-make-PAST-1SG.INDICATIVE
 ‘I made a dress.’

 čamas-p’al-c’uq-šítł-’in
 sweets-taste-in.mouth-PERF-1PL.IMPER
 ‘Let us put something sweet in our mouths.’
 - b. Yupik (Eskimo-Aleut, Mithun 1999: 43)
 ayag-yug-umi-ite-qapiar-tu-a
 go-want-be.in.state-not-really-INTRANSITIVE.INDICATIVE-1SG
 ‘I really don’t want to go.’
 ‘Yup’ik shows layered or hierarchical ordering, as if words were built up step by step, beginning with the root. Each added suffix has semantic and grammatical scope over all material to its left.’ Mithun 1999: 43
 - c. Athapaskan languages: An affix is to the right of one in its scope (Rice 2000)
 Preverbs: The preverb to the right has scope over the one to its left.
 locative-relation

Slave	te-ká-yí-ya	‘s/he got out of water.’ Rice 2000: 86
	water-out of	
	teh-k’e-ts’ene-tah	‘look around, feel around in water’
	water-around	
Ahtna	ti-k’e-ni-yaa	‘He came to a trail.’ Kari 1990: 535
	trail-to	
	ta-tes-ni-yaa	‘He went over a portage.’ Kari 1990: 334
	water-across	

 modificational

Slave	té-ní-ts’-j-’a	fold’ 88
	half-complete	
	séé-ní-eni-ts’-j-h-thi	‘think over, get straight in mind’
	good-complete	
- c. Athapaskan: ordering of functional elements
OBJECT – ASPECT – (PARTICIPANT) SUBJECT – CAUSE
Overall Athapaskan ordering is compatible with the causal chain (ordering reversed from that shown in the clausal chain; stem in ‘wrong place’).

14. Evidence for syntactic/semantic constraints on affix order: ab, ba orderings with different readings
- a. Yupik (Eskimo-Aleut, Mithun 1999: 43)
 ‘Alternative orders are used to convey different scope relations.’
- | | |
|---------------------------|---------------------------|
| yug-pag-cuar | yug-cuar-pag |
| person- big-little | person- little-big |
| ‘little giant’ | ‘big midget’ |
- ayag-ciq-**yugnarqe**-ni-llru-u-q
 go-future-**probably**-claim-PAST-INDIC.INTR-3SG
 ‘He said he would probably go.’
- ayag-ciq-ni-llru-**yugnarqe**-u-q
 go-future-claim-PAST-**probably**-INDIC.INTR-3SG
 ‘He probably said that he would go.’
- b. Chichewa (Bantu, Hyman and Mchombo 1992)
- | | |
|---|---|
| reciprocalized causative | causativized reciprocal |
| mang-its-an | mang-an-its |
| tie- CAUS-REC | tie-REC- CAUS |
| [X _i cause [e.o. _i tie Y]] | [X cause [Y _i tie e.o. _i]] |
| ‘cause each other to tie’ | ‘cause to tie each other’ |
- c. Oji-Cree (Algonquian, Slavin 2005)
- | | |
|------------------------------------|------------------------------------|
| ishkwaa-niipaa-sookihpawn | nipaa-ishkwaa-sookihpwan |
| finish-at night-be snowing | at night-finish-be snowing |
| ‘It stopped snowing at night’ | ‘It stopped snowing at night’ |
| (does not snow at night anymore) | (was snowing the whole day) |
| kiimooci-kishahtapi-wihsini | kishahtapi-kiimooci-wihsini |
| secretly-fast-eat | fast-secretly-eat |
| ‘He secretly eats fast’ | ‘He eats secretly (nobody knows |
| (nobody knows that he eats fast) | that he eats) and he does it fast’ |
- d. Pulaar, Fuuta Tooro dialect (West Atlantic, Paster 2005)
- | | |
|--|--------------------------------------|
| comprehensive-separative | separative-comprehensive |
| mi udd- id-it-ii baafe de fof | mi udd- it-id-ii baafe de fof |
| 1sg close-COM-SEP-past door det all | 1sg tie-SEP-COM-past door det all |
| ‘I opened all the doors (in sequence)’ | ‘I opened all the doors (at once)’ |
| action is iterative | action is simultaneous |
| comprehensive: plural, with simultaneity of action | |
| separative: a type of iterative | |
| causative-repetitive | repetitive-causative |
| o janjg- in-it-ii kam | o janjg- it-in-ii kam |
| 3sg learn-CAUS-REP-past 1sg | 3sg learn-REP-CAUS-past 1sg |
| ‘He taught me again’ (he taught me before) | ‘He made me learn again’ |
| [[he taught me] again] | [[he made me [learn again]]] |

15. Summary

There is evidence based on compositionality and on ab-ba orders related to scope that semantic/syntactic factors can play a role in the ordering of affixes.

16. Questions

- a. What about affixes that do not enter in to a syntactic/semantic relationship?
What determines their ordering?
- b. Are there cases where syntactic/semantic factors make the wrong predictions?

III. Phonological conditioning of affix ordering

17. The order of affixes could be conditioned by phonological factors.

18. Phonology can affect the placement of an affix with respect to a root.

- a. Tiene (Bantu, Hyman 2006)

Fusion vs. infixation

causative

lε	'eat'	lees-ε	'feed'
mat-a	'go away'	maas-a	'cause to go away'
kal-a	'be'	kaas-a	'cause to be, become'
taan-a	'get thin'	taas-a	'cause to get thin'
lab-a	'walk'	lasab-a	'cause to walk'
lok-a	'vomit'	losek-ε	'cause to vomit'
yóm-a	'become dry'	yóseb-ε	'make dry'

T must precede P, K

- b. Kashaya (Pomoan, Buckley 2000, cited from Hyman 2006)

-ta- pluractional

dahqoTol + ta → dahqoT.ol- ta-	'fail (to do)' (T=retroflex t)
diT'an + ta → diT'an- ta-	'bruise by dropping'

bilaqham + ta → bilaqha- ta-m
sima:q + ta → sima- ta-q

'feed'

'go to sleep'

No non-coronal codas

19. These cases suggest that the ordering of an affix with respect to the base may be responsive to phonological factors.

20. What about the ordering of affixes themselves? Could their order be a consequence of phonological factors?

21. Sonority might play a role in the sequencing of affixes.
- a. Navajo (Athapaskan, Young and Morgan 1987)
 $d - n$
 d- can be part of the basic lexical entry or indicate inception; n- can be part of the basic lexical entry or mark termination. They are fixed in their order. Sonority is involved.
 These affixes do not interact with each other in any semantic way; the two aspectual affixes do not co-occur.
 - b. Gombe Fula (Arnott 1970; Paster 2005, 2006)
 The order of affixes is largely fixed: TDNR

-d	denominative
-t	reversive, repetitive, retaliative, intensive
-d	associative, comprehensive
-n	causative
-r	modal, locative

 Ordering is determined by sonority.
 However, there are some counterexamples, with other orders.
 Paster 2005, 2006 argues that scope offers a better account.
22. The workings of scope in Gombe Fula
- a. In general, the order TDNR reflects scope.
 - b. However, the order can be reversed, and scope is reflected.
 - c. D comitative-T repetitive
 $mi \text{ wol-}d\text{-it-}at\text{-aa} \quad 'e \quad mabbe$
 1sg speak-COM-REP-future-negative with 3pl
 'I won't speak with them again' (Arnott 1970: 368)
 reading: [[speak with] again], not [[speak again] with] (Paster 2005:190)
 - d. N causative-D comitative
 $'o \text{ ñaam-}n\text{-id-}ii \quad di$
 3sg eat-CAUS-COM-past 3pl
 'He fed them all' (Arnott 1970: 368)
 reading: 'He made it so that they all ate'(Paster 2005: 190)
23. Conclusion: segmental effects
- There is some evidence that segmental effects may play a role in affix ordering, at least when the affixes in question have no semantic or syntactic relationship between them, as in the Navajo case.

24. Morphophonological factors can affect the ordering of affixes: Navajo metathesis
 Navajo unspecified object and fourth person subject
- order: ? unspecified object + j subject
n-ʔ-ji-ł-go'
 'unspecified pokes around (something)' Young and Morgan 1987: 550-552
 - order: j subject (realized as zh) + ? unspecified object
dá-da-żh-ʔ-di-nil
 'unspecified plugs up (holes)' Young and Morgan 1987: 297
 - The order of the unspecified object and the fourth person subject is determined by the morphophonological environment.
V ? j C → V zh ? C
25. Phonotactic factors can affect the ordering of morphemes: Cherokee metathesis
 Western Cherokee (Iroquoian, Foley 1980; cited from Hume 2000)
- | counterfactive | cislocative |
|-----------------------|------------------------------------|
| yi-hi-nega → hyinega | wi-hi-nega → hwinega 'you' |
| counterfactive-2sg | cislocative-2sg |
| yi-ji-nega → yijinega | wi-ji-nega → wijinega 'I' |
| counterfactive-1sg | cislocative-1sg |
| yi-ga-nega → yiganega | wi-ga-nega wiganega 'he' |
- expected order: counterfactive/cislocative – person
 metathesis: *glide-Consonant (with deletion of the vowel in the 2sg)
26. Prosodic factors can affect the ordering of morphemes: Athapaskan prosodic shapes
- In Athapaskan languages in general, prosodically 'small' affixes are closer to the root than are prosodically larger affixes.
 - Affixes with similar meanings can occur in very different parts of the verb word, contrary to the predictions of the scopal hypothesis.
 - Navajo inceptive (Young and Morgan 1987)
 lexical *niki* 'start, begin – an inceptive, to start back home' 631
niki-ní-yá 'I started for home' 636
 functional *d* inceptive (Young and Morgan 1987)
d-ésaał 'to be going to dash' 309
háágóósh d-íniyá 'where are you going?' 333
Kintahgóó d-éyá 'I'm going to town' 333
 - Slave inceptive (Rice 1989)
 lexical *ti* 'start off' 711
ti-neh-tłaa 'I started off' 711
 functional *d* inceptive 587
de-h-tłaaah 'I started out on a trip' 587

- iii. Koyukon negative (Jetté and Jones 2000)
 Lexical **ts'ē** # STEM+*e* pejorative, lacking (restricted)
- | | | |
|-------------------------------|---------------------|-----|
| beyeɬ ese-neyh | 'I know him' | 660 |
| beyeɬ ts'ē- ese-neeg-e | 'I do not know him' | |
- Functional **l/ɬ** + STEM+'aa active imperfective negative (suffix varies between *aa* and *e*) 374 (productive)
- | | | | |
|---------------|---|---|-----|
| ts'ē-gho-no | 'we (two) are alive, someone is alive, he is alive' | (ghe+Ø+no 'be alive, move, twitch, have a spasm') | 483 |
| ghee-ɬ-no-'aa | 'it is not alive' | 483 | |
- c. How do we know where the item in question goes?
 Smaller affixes are closer to the verb stem and larger affixes at a distance.
 Navajo inceptives: *niki* vs. *d*
 Slave inceptives: *tj* vs. *d*
 Koyukon negatives: *ts'ē* vs. *l/ɬ*
27. Prosodic shape and suffixes: diminutive/augmentative and possessed
- a. Slave
- | | | |
|---------------|--------------------------------------|------------------------|
| non-possessed | | possessed (suffix -é') |
| 'ah | 'snowshoes' | -'ah-é' |
| 'ah-zha | 'small snowshoes, women's snowshoes' | -'ah-é-zha |
| beh | 'knife' | -beh-é' |
| beh-cho | 'large knife, hunting knife' | -beh-é-cho |
- b. A syntactic/semantic account might predict that the diminutive and augmentative would be linearly closer to the stem than the possessive suffix.
- c. A phonological account: The smaller suffix is closer to the root.
28. Other phonological effects: haplology
 Phonology can suppress an affix.
 Wits'uwit'en (Athapaskan, Hargus 2007)
- a. t- future + t- lexical
- | | | | | |
|-----------|--------|-----------|-----------------|--------------|
| nən t-zuh | 'spit' | nən təzuh | 'he's spitting' | 596 |
| | | nən tazuh | 'he will spit' | *nən tətazuh |
- b. d- reflexive + d- lexical
- | | | | | |
|-------------|---------|------------|-----------------------|------|
| O-u-d-ɬ-qət | 'ask O' | sodɪɬqət | 'he's asking me' | 596 |
| | | ne?odəłqət | 'he's asking himself' | *d-d |
- c. n- errative + n- lexical
- | | | | | |
|--------|----------------|-----------|---------------------------|------|
| O-n-ɿ? | 'steal, sneak' | nizəs?əy | 'I sneaked, stole it' | 596 |
| | | nizəst'əy | 'I accidentally stole it' | *n-n |

29. Summary

The ordering of affixes can be sensitive to phonological information. (See Paster 2005 for arguments against phonologically conditioned control of affix ordering.)

30. Conclusions so far

- a. There is evidence that syntactic/semantic and phonological factors can play a role in the ordering of affixes. Is that all there is?
- b. What other ordering possibilities are there?
Both variable order in the presence and absence of scope and fixed order in the presence of scope are found.

IV. Variable ordering

31. Variable ordering is found in the absence of a scopal relationship.

32. Variable ordering is also found in the presence of a scopal relationship.

33. Variable ordering of affixes in the absence of scope.

- a. Navajo (Young and Morgan 1987)
ni-s-oo-t-tsiz ‘you pl. extinguished fire’ 178
si-n-oo-líid ‘you two squatted down’ 197
The qualifier *n* is part of the basic lexical entry, with no independent meaning. The position of *n*- with respect to *s*- situation aspect is not fixed.
- b. Sekani (Athapaskan, Hargus 1988)
s-i dual number, *n* qualifier
u-sə-n-i-be ‘we 2 pick berries’ 113
u-nə-s-i-be ‘we 2 pick berries’ 113
The qualifier *n* is part of the basic lexical entry of the verb; *s* is part of the first person dual morpheme (discontinuous with *i*-)
- c. Another case of a scopeless relationship: Oji-Cree (Algonquian, Slavin 2005)
kihci-kiimooci-tiiwiminikhwe
a lot-secretly-drink tea
‘He drinks a lot of tea secretly’ 31

kiimooci-kihci-tiiwiminikhwe
secretly-a lot-drink tea
‘He drinks a lot of tea secretly’

Note that *kihci* is not variable in its position in other cases. In the following example, *kihci* modifies the following element, while in the examples above, it modifies the verb stem.
kihci-kishahtapi-onaakohshin * **kishahtapi-kihci-onaakohshin**
very-quickly-be evening
‘The evening comes very quickly’
- d. In these examples, there is not a scope relationship, and variable ordering results.

34. In other cases, morphemes can occur in variable order even with a scope relationship between them.
- Pulaar (Paster 2005)
 Causative -n and Modal -r are freely ordered regardless of scope. (183)
 Scope: Causative has scope over modal, but ordering is variable.
 R-N
 o irt-**ir-in**-ii kam supu o kuddu
 3sg stir-MOD-CAUS-past 1sg soup det spoon
 'he made me stir the soup with a spoon' (I used a spoon)
 - N-R
 o irt-**in-ir**-ii kam-supu o kuddu
 3sg stir-CAUS-MOD-past 1sg soup det spoon
 'he made me stir the soup with a spoon' (I used a spoon)
- Scope: Modal has scope over causative, but variable ordering is possible.
- N-R
 o irt-**in-ir**-ii kam supu o labi
 3sg stir-CAUS-MOD-past 1sg soup det knife
 'he made me stir the soup with a knife' (he used a knife)
 - R-N
 o irt-**ir-in**-ii kam supu o labi
 3sg stir-MOD-CAUS-past 1sg soup det knife
 'he made me stir the soup with a knife' (he used a knife)
35. Ordering can be variable, overriding syntactic, semantic, and phonological factors.
- V. Template morphology**
36. The order of affixes could be stipulated, not a consequence of any general linguistic principles, but pure morphology.
37. This is often called a template: linear order is not expected or predictable. Other terms for it are position class morphology and slot-and-filler morphology.
38. Defining 'template'
- Inkelas 1993: 560
 morphological systems in which morphemes or morpheme classes are organized into a total linear ordering that has no apparent connection to syntactic, semantic, or even phonological organization
 - Good 2003
 A linearity domain in which some aspects of the linear relations amongst constituents must be specified independently of their hierarchical order.
 linearity domain: A linguistic constituent whose immediate subconstituents bear linear relations to one another.

39. Properties of templates (e.g., Simpson and Withgott 1986, Spencer 1991, summary in Rice 2000, Good 2003)
- a. Morphosyntactic templates may contain zero morphemes (obligatorily active linearly-defined positions).
 - b. Morphosyntactic templates do not produce headed structures (not layered).
 - c. Morphosyntactic templates are not constrained by principles of adjacency (allow discontinuous dependencies).
 - d. Morphosyntactic templates permit ‘look ahead’ where an ‘outer’ morpheme affects the choice of an ‘inner’ morpheme.
40. A classic example of templatic morphology:
 Navajo (Young and Morgan 1987, 1992)
 pronominal + null postposition + postpositional/adverbial-thematic/nominal + reflexive
 + reversionary + semeliterative + iterative + distributive plural # object + subject +
 thematic-adverbial + modal-conjugation + subject pronoun + classifier + stem
41. Templatic properties of Navajo
- a. Inflectional material (e.g., subject, object, aspectual material) intervenes between derivational material (e.g., postpositional/adverbial-thematic/nominal) and the stem.
 - b. Derivational material (thematic-adverbial) is found between inflectional slots (e.g., object, subject, subject pronoun).
 - c. There are discontinuous dependencies.
 - d. Outer morphemes affect the choice of inner morphemes.
42. The general conclusion in much of the literature is that morpheme order in Navajo is stipulated by a template (e.g., Kari 1989)
 However, we have seen that much of affix ordering in Navajo can be accounted for by semantic and phonological means.
43. Another example of a template: Oneida (Iroquoian; Lounsbury 1953)
- a. The template
 prepronominial prefixes + pronominal prefix +
semireflexive/reflexive/reciprocal + **incorporated noun** + **verb root** +
derivational suffixes + *aspect suffixes* + expanded aspect, progressive
 suffix, clitics
 bold: base italic: stem
 Prepronominial prefixes include repetitive, cislocative (approaching),
 future/optative, dualic (2, change of state or position), factual, translocative
 (motion away), coincident, negation, partitive, multiple
 Pronominal prefixes mark agent and patient.
 Derivational suffixes include inchoative, causative, instrumental,
 benefactive, distributive, intensive, facilitative, completive

- b. Templatistic properties
 Prepronominal prefixes and derivational suffixes are in different positions, but appear to be similar in terms of their functions.
 In the prepronominals, translocative (*thither*) and dislocative (*hither*) are in different positions (Mithun 1999: 43).
44. Athapaskan templatistic properties
 Template: syntactic, semantic, and phonological factors do not determine ordering.
- Arbitrary ordering of the ‘qualifiers’
 - Witsuwit’en (Hargus and Tuttle 2003: 106)
 $w - u - n1 - d - n2 - t - n3 - s$
 most *n* qualifiers are *n2*
 lexical, productive (errative), gender
n3: inceptive *ho#n*
n1 two lexical items
 - Slave (Rice 1989)
 $u - gh - d - n$
 - Sekani (Hargus 1988)
 $u - d - n$
 - Koyukon (Jetté and Jones 2000)
 $oo - gh - d - t - n$
 - Principle of Templatistic Attraction (tendency for phonologically similar elements to gravitate to the same position; Tuttle and Hargus 2004: 94) is helpful for meaningless elements and those that do not interact.
45. Are there cases where affixes potentially interact with each other in a scope relationship where the ordering is fixed?
- Bantu suffixes
 - The general template (Hyman 2003)
 Causative – Applicative – Reciprocal – Passive (CARP)
 - Chimwi:ni (Abasheikh 1978:28, cited in Hyman 2003)
 “In Chimwi:ni, unlike some other Bantu languages, the order of the extensions is restricted. The following ordering of the extensions ... is as follows:
 Verb Stem – Causative – Applied – Reciprocal – Passive
 It is not possible to put these extensions in any other order.”
 luti, Ji mw-andik-**ish-iriz-e** mwa:na xati
 stick Ji he-write-CAUS-APP child letter
 ‘Ji used a stick to make the child write a letter’
 (applicative acts on causee)

 skuñi, Ari m-pik-**ish-iriz-e**: muke nama
 firewood Ali he-cook- CAUS-APP woman meat
 ‘Firewood, Ali made the woman cook meat (with it)’
 (applicative acts on lower verb)

iii.	Chichewa causative and applicative always occur in that order no matter what the meaning.
	lil-its-il
	cry- CAUS-APP
	‘cause to cry with’
	‘the hunters are making the child cry with a stick’
	[[cause cry] with]
	takas-its-il
	stir with- CAUS-APP
	‘cause to stir with’
	‘the hunters are making the woman stir with a spoon’
	[[stir with] cause]

- d. Hyman: “The inescapable conclusion is that suffix ordering does not reflect compositionality/semantic scope.” Morphemes are ordered by a template (formalized as restrictions on ordering of particular morphemes with respect to one another).
- c. Pulaar fixed orderings (Paster 2005)
 - Repetitive -it precedes Modal ir regardless of scope.
 - o udd-it-ir-ii baafal ŋgal sawru wodndu
3sg close-REP-MOD-past door det stick different
‘he closed the door again with a different stick’ 178
 - mi udd-it-ir-ii baafal ŋgal sawru
1sg close-REP-MOD-past door det stick
‘I closed the door with a stick again’ (same stick)

46. **Summary**

In some languages, with at least some affixes, ordering is stipulated by a template. These may be affixes that do not interact with one another, but they may also be affixes that potentially enter into a scopal relationship.

VI. Putting the pieces together

47. Affix ordering has been attributed to:
- syntactic/semantic properties
 - phonological properties
 - morphological properties (template)
- Each is able to account for some aspects of ordering, but no single principle accounts for all aspects.

48. **The Athapaskan verb**

phonology: Segregates affixes by size; some ordering between unrelated affixes
 scope: Orders affixes within their phonological groups
 template: Orders affixes that are not ordered by other principles, with possibility of variation

49. **Pulaar**

phonology: no apparent role
 scope: Orders some of the affixes with respect to one another
 template: Orders other affixes with respect to one another, or allows variability

50. The Bantu cases
 phonology: no apparent role
 scope: Orders some of the affixes with respect to one another (depending on language)
 template: Orders other affixes with respect to one another, and is considered the default situation by Hyman 2003 and Good 2003; some variability is allowed (depending on language)
51. Why do principles beyond scope play a role?
 Why template >> scope?
 The ideal alignment (semantic compositionality, syntactic mirror principle, morphological layering, phonological cyclicity) is “too much to ask of actual speaker-hearers faced with having to pack and unpack morphologically complex forms in real time ... much of the scope relations is either trivially predictable from the lexical semantics or the discourse context or non-consequential, even indeterminate.” Hyman 2003

VII. Conclusion

52. Various linguistic factors can be involved in determining the ordering of affixes, including phonological, syntactic, and semantic factors.
53. Morphological factors – here called a template – can also be involved.
54. Variation is possible, both in the absence of semantic factors and in their presence.
55. Each language needs careful study to see which of these factors are involved, and how they interact with one another.
56. What other factors are involved in affix ordering in addition to linguistic ones?
 - a. Processing: Why might one factor take priority over another?
 Hyman proposes that templates might aid processing.
 - b. Social factors: Maybe I just want to sound different!
57. Questions
 - a. How can the linguistic factors interact in different languages?
 - b. How do the linguistic factors interact with the non-linguistic factors?
 - c. What is synchronic, and what is simply a consequence of diachrony?
 - d. These questions suggest that a careful study of affix order involves understanding the linguistic factors that can be involved in the ordering of affixes and how they interact with one another, as well as understanding the processing and social factors that might allow for the various ways in which the factors can be weighted in different languages.

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