

Incorporation strategies: Using "scratch" elements

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Incompleteness



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Second-position suffixes in Nuuchahnulth

- A large number of elements in Nuuchahnulth, especially transitive verbs, are bound elements that appear in second position
- These elements may attach to:
 - a noun representing their direct object
 - a modifier of the (postposed or dropped) direct object
 - an adverb modifying the verb
 - a semantically empty morpheme

Second-position suffixes in Nuuchahnulth

Direct object attachment:

- (1) nuuknaaks.
nuuk-na·k=s
song-have=STRG.1SG
'I have a song/songs.'

Adjective attachment:

- (2) ʔaʔanak nuuk.
ʔaʔa-na·k=s nuuk
two-have=STRG.1SG song
'I have two songs.'

Empty morpheme attachment:

- (3) ʔunaaks çiiqʔak.
ʔu-nak=s çiiq-ʔak
x-have=STRG.1SG chant-for
'I have a chant.'

Adverb attachment:

- (4) qiinaakitaḥ ʕiniiʔ.
qii-na·k=(m)it=(m)a·ḥ ʕiniiʔ
long.time-have=PST=REAL.1SG dog
'I had a dog for a long time.'

Why a suffixing model and not enclitics?

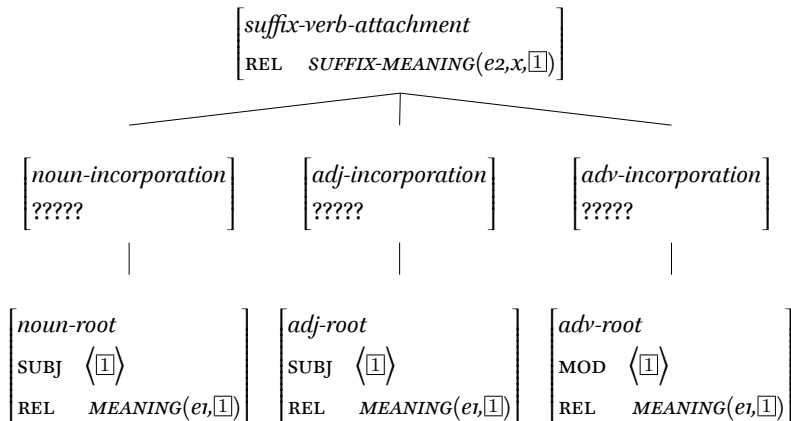
- Occasionally unpredictable meanings
- Occasionally unpredictable empty morpheme attachment
- Select for bound root forms (where available)
- Different phonological properties from clausal enclitics
- Different place in syntax from clausal enclitics

Second-position suffixes in Nuuchahnulth

Table 1: Properties of noun-taking suffix verbs

Attachment	Behavior	Valence change
noun	direct object	saturates complement
adjective	modifies direct object	none
adverb	modifies verb	none
empty root	—	none

- I want one lexical entry for the suffix verb introducing its semantics (not three or four!)
- But it needs to behave differently depending on the parts of speech it attaches to
- Solution: Do this in two steps
 - 1 A part-of-speech specific rule that “prepares” a word for incorporation, generating a consistent “standard” incorporation AVM
 - 2 The suffix itself, which takes the “standard” AVM and yields the correct syntax and semantics



- Common nouns, adjectives, and verbs are all predicates
- “Red the dog” is a sentence.
- So is “King the dog”
- So is (more normally) “Bark the dog”
- All these predicates can accept past tense, and so on.
- I model all of these as introducing events that relate to an ARG₁. “Dog” has an event ARG₀ and individual ARG₁. Ditto adjective “red” (its ARG₁ is reentrant with its MOD!) and verb “bark.”
- The upshot of all this is that the XARG for common nouns and adjectives points to the entity argument of those relations!

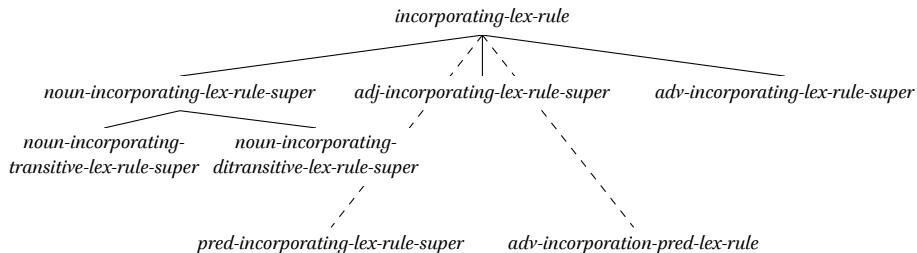
Intermediate AVM

<i>intermediate-avm</i>		
SYNSEM.LOCAL	CAT.VAL	[SUBJ ⟨ [verb's-subject] ⟩]
		[COMPS <i>verb's-comps</i>]
		[SPEC ⟨ [<i>verb's-arg3</i>] ⟩]
	CONT.HOOK	[XARG <i>verb's-arg2-index</i>]
		[GTOP <i>verb's-lbl</i>]

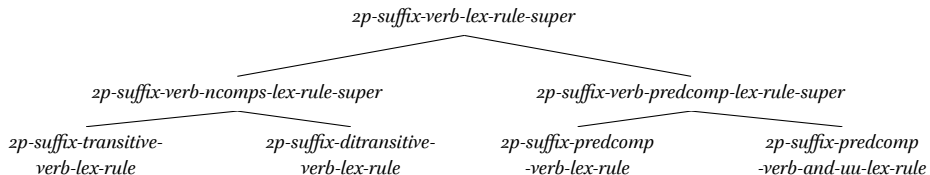
- The incorporation rule will define the verb's complement list—not the verb itself!
- Other elements will be accessed and constrained by both the incorporation rule and the suffix attachment.

- Why do I need the verb's LBL?
 - The suffix verb will introduce an LTOP—its predication's LBL—which an incorporated adverb needs to access. This slot is used to make sure these remain separate after the suffix verb attaches.
- Why do I have COMPS and also the verb's ARG3?
 - When generating the intermediate-avm (from noun, verb, adjective, adverb) what is on the COMPS list may differ—an incorporated noun will reduce it by one, other incorporated elements will not.
 - But I still need a known place to access the ARG3 (second-comp)'s features and INDEX, if it exists.
 - Requires separate rules prepping for transitive/ditransitive suffix attachment: *noun-incorporation-transitive-lex-rule* & *noun-incorporation-transitive-lex-rule*, etc.

Type Hierarchy for Incorporation



Type Hierarchy for Suffixation



[*2p-suffix-verb-lex-rule*
RELS *SUFFIX-MEANING, LEXEME-MEANING*]

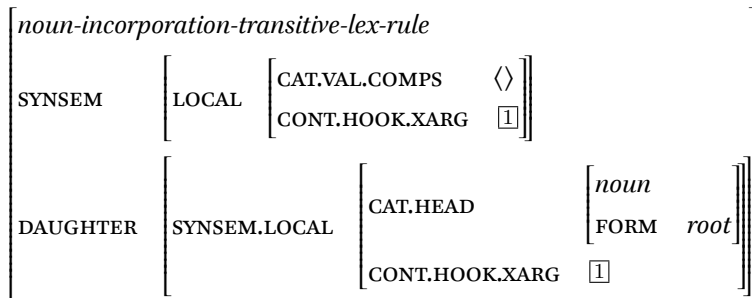
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[*incorporating-lex-rule*
SUBJ $\langle [verb's-subject] \rangle$
COMPS *verb's-comps*
SPEC $\langle [verb's-2nd-comps] \rangle$
XARG *verb's-arg2-index*
GTOP *verb's-lbl*]

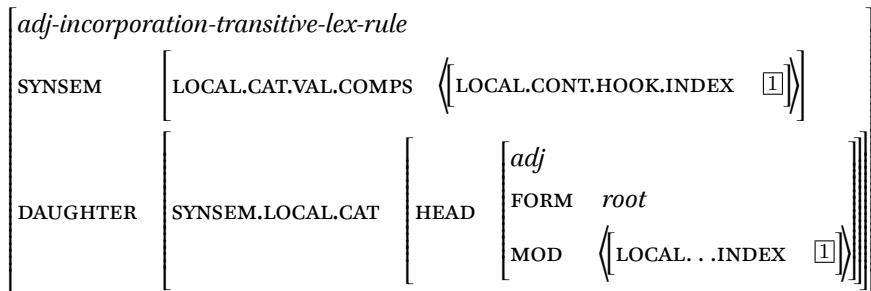
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[*lexeme*
RELS *LEXEME-MEANING*]

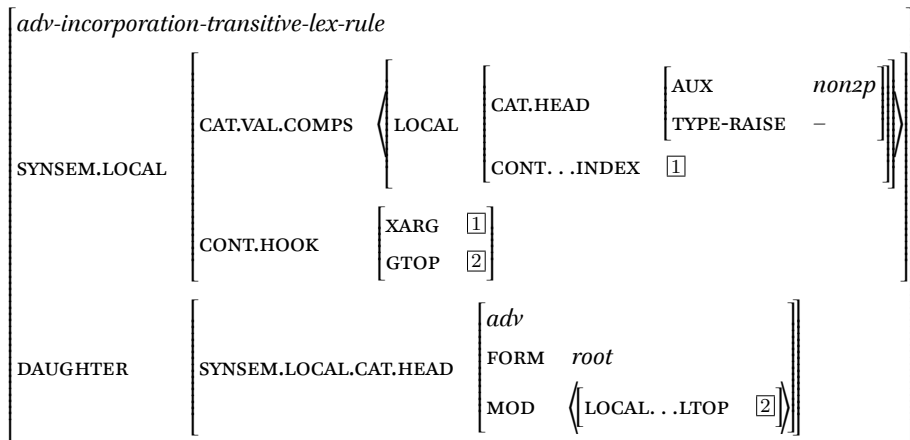
Incorporation Rules: Noun



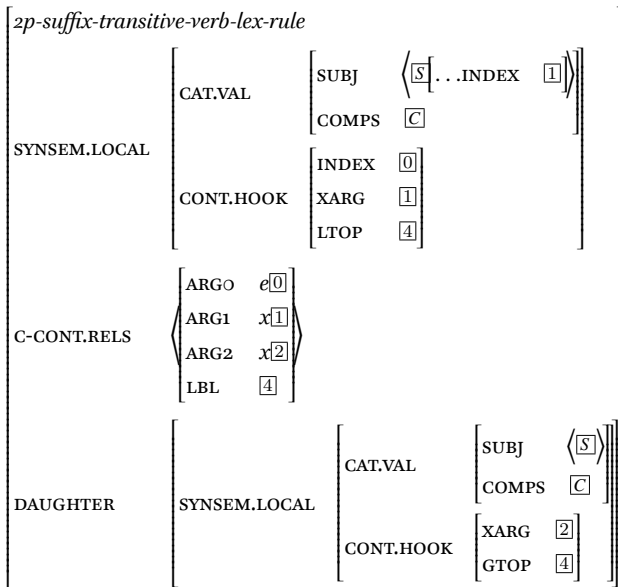
Incorporation Rules



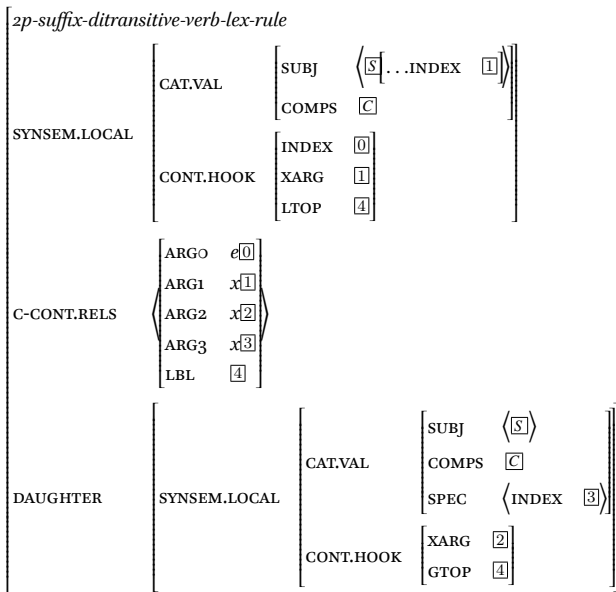
Incorporation Rules



Suffix Rules



Suffix Rules



- I've modeled a type of lexical incorporation which behaves differently based on the part of speech being incorporated
- Instead of having a different lexeme for the incorporation of each part-of-speech, I “prepare” lexemes for incorporation
- This “preparatory” state has to have access to 5 bits of information from the verb: subject, complements, the verb's ARG2, the verb's ARG3, and the verb's LBL
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