Nicholas LaCara · University of Toronto LIN333 · 4 February 2019

Compounding

Today we focus on compounds. Despite looking outwardly syntactic, they are surprisingly hard to incorporate into a syntactic theory of morphology. We'll spend some time describing them before struggling with how to derive them.

1 Overview

- Compounding is a process that creates new words by combining other words.
  - As usual, we will begin by looking at the properties of this phenomena before turning to the theoretical issues it raises.
  - Because compounding combines free forms, the distinction between compounding (a putatively morphological operation) and purely syntactic phenomena (like adjunction) is much less clear than it is with other processes.
  - Despite this, the elements created by compounding behave more like words than they do phrases
- After going through some important aspects of the classification of compounds, we'll turn to the potential relation of compounds to incorporation.
- We'll also look at Harley's (2009) approach to synthetic compounds in Distributed Morphology.
  - This will give us an excuse to look at a process called incorporation, where objects become part of selecting verbs.

This is the first time we'll work through a syntactic analysis I'm pretty sure doesn't work right.

2 General properties and types of compounding

- Compounding generally combines two elements that are not morphologically bound to create a new element.
- In English, this operation is very productive, combining elements of all lexical categories and prepositions

(1) Adj + Adj
  - *red hot*

(2) Noun + Adj
  - *nationwide*

(3) Verb + Adj
  - *feel-good*

(4) Prep + Adj
  - *overripe*

(5) Adj + Noun
  - *blackberry*

(6) Noun + Noun
  - *bookcase*

(7) Verb + Noun
  - *wanderlust*

(8) Prep + Noun
  - *byway*

(9) Adj + Verb
  - *dry clean*

(10) Noun + Verb
  - *spoon feed*

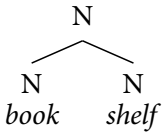
(11) Verb + Verb
  - *dropkick*

(12) Prep + Verb
  - overtake

Preposition–preposition compounds exist in English (*throughout*, *into*), but this is not productive. Prepositions otherwise don't tend to be the heads of compounds.

- As with other morphological and syntactic phenomena, we assume that this operation creates binary-branching structures, combining two elements at a time.
  - Compounding is often recursive. Compounds containing more than two words are usually the result of more than one application of compounding.

(13) bookshelf



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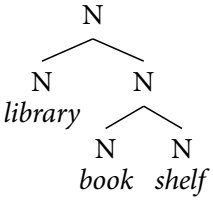
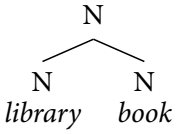


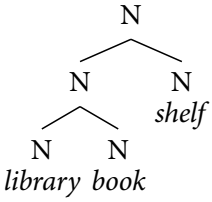
- Notice, though that this leads to a lot of potential structural ambiguity:

This is a place where English spelling disambiguates the compound. However, there is not consistent orthographical convention for compounds in English: Sometimes they are spelled as one word, sometimes they are hyphenated, and sometimes there are spaces between elements.

(15) library book



(16) library book shelf



2.1 Distinguishing compounds from phrases

- Because compounding combines free morphemes, it is not always obvious whether two adjacent words form a compound or not.
  - It turns out, though, that there aren't a lot of good diagnostics for distinguishing compounds from phrases.

2.1.1 Stress placement

- In some cases cases, compounds can be differentiated from from other syntactic structures by stress pattern.
  - Adjective–noun compounds typically only stress the adjective, while NPs with an adjectival modifier stress both:

This follows, presumably, from the fact words and phrases determine different prosodic domains in which rules like stress assignment apply.

(17)	a.	*a greenhouse*	[ə.ˈgɹin.hʌʊs]	*Adjective–noun compound*
	b.	*a green house*	[ə.ˈgɹin.ˈhʌʊs]	*Adjective modifying a noun*
(18)	a.	*a blackbird*	[ə.ˈblæk.bəɹd]	*Adjective–noun compound*
	b.	*a black bird*	[ə.ˈblæk.ˈbəɹd]	*Adjective modifying a noun*

- Other compounds also tend to destress the second element:

(19)	a.	*a desktop*	[ə.ˈdɛsk.tɑp]	*Noun–noun compound*
	b.	*a gas station*	[ə.ˈgæ.steɪ.ʃən]	*Noun–noun compound*
	c.	*to whitewash*	[tʰə.ˈwʌɪʔ.wɑʃ]	*Adjective–verb compound*

- However, stress is not necessarily a reliable indicator, as noun–noun compounds often put stress on both elements in the compound:

This seems to indicate a one-way implication: If you are destressing the second element (at least in English), you may have a compound.

(20) a. *a stone wall* [ə.ˈstoʊn.ˈwɑll] *Adjective–noun compound*
b. *to overtake* [tʰə.ˌoʊvəɹ.ˈtʰeɪk] *Preposition–verb compound*

2.1.2 *Movement*

- Since compounds are supposed to be words, various syntactic operations do not appear to apply inside of them. A clear case is movement:
  - It does not appear to be possible to displace part of a compound.
  - Recall from LIN102 and LIN232 that movement is a classic diagnostic of for syntactic constituency.

(21) a. Alex drinks tea.
b. It's tea$_i$ Alex drinks t_i (not coffee).

(22) a. Alex is a tea-drinker.
b. *It's tea Alex is a t_i-drinker.

- This is an old diagnostic, though. Nowadays, it's widely though that it isn't possible to move nouns in English that aren't in DPs.
  - The *tea* in *Alex drinks tea* is usually thought to be a full DP in English (with a null determiner).
  - In the compound *tea-drinker*, it is just a noun, not a DP. So we don't really expect it to be able to move.
- Furthermore, nominal modifiers like adjective phrases cannot move, either:

Such movements are thought to violate Ross's (1967) LEFT BRANCH CONDITION.

(23) a. Alex bought a very expensive house.
b. *It was very expensive$_i$ Alex bought a t_i house.

- So it's not obvious that this diagnostic actually tracks a difference between compounds and phrases.

2.1.3 *Reference*

- Relatedly, it is sometimes pointed out that elements in compounds cannot refer to things in the real world or establish new referents.
  - In (24), the *truck* in *truck-driver* doesn't refer to a specific truck.
  - Furthermore, it doesn't introduce a truck that a pronoun can later refer to.

(24) #Sally is a truck-driver. It is in the parking lot.

- However, this may well be because in English NPs don't refer to things; DPs do.
  - Definite and indefinite determiners are usually required to interact with discourse referents, but they are absent here.

2.1.4 *Coordination*

- Another constituency test we can try is coordination. It certainly appears that in some compounds it is not possible to include coordination:

(25) a. *There are [black- and white]boards in every classroom.
b. *We had to [fork- and spoon]feed the angry toddler.

Blackboard, *whiteboard* and *spoon-feed* obey the stress rule above. So these might be true compounds.

- However many compounds do seem to allow coordination:

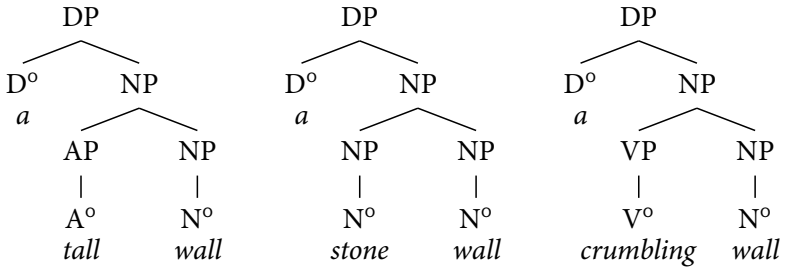
(26) a. Alex is a [tea and coffee]-drinker.
b. I don't think they'll [over- or under]pay.
c. Bozeman firefighters train for wildfire response [county, state, and nation]wide.

2.1.5 *Summary*

- These diagnostics are hit-and-miss.
- Personally, I suspect what they tell us is that compounds are not a homogeneous group. Rather, some compounds may be more syntactic than others.
- In cases where nouns are the second element in a compound, I suspect we occasionally see various types of non-adjectival syntactic modifiers:

You will even find this analysis in some syntax textbooks, like Lobeck and Denham 2014.

(27) a. a tall wall b. a stone wall c. a crumbling wall



- In other cases, though, something more complicated must be going on.
  - The stress facts are certainly indicative of some change to the structure.
  - Limited coordination is also probably a reflex of morphological derivation.
- However, the other diagnostics have a number of confounds that make them less useful.

2.2 The compounded elements

- The typical description of compounds is that they combine words (or non-bound forms) to make new words.
- This means the elements that combine may already have undergone some amount of morphological derivation though languages vary with regard to just how much morphology appears on elements in a compound.

- The examples in (1)–(12) all involve compounding with derivationally simplex elements which could be analyzed as roots.

Except maybe *nation* in *nationwide*.

- This is not to say that English has to create compounds with roots; derivationally complex elements may be used in either side of a compound:

(28) *clear navigation instructions*
[[[[navig]-ate]-tion] [[in-struct]-tion]]

- However, in North American dialects of English, the non-head element does not usually bear any inflectional morphology.
  - It can happen, however, when the plural has a specialized meaning distinct from the singular (*e.g.*, *operations manager*, *arts degree*).
- British English does allow the non-head to appear in the plural form, however:

(29) a. £UK jobs seekers are most open (76%) to being assessed through escape rooms.
http://www.onrec.com/news/news-archive/82-of-uk-job-seekers-want-companies-to-use-more-unorthodox-recruitment-methods

b. £Europe is a particular target of drugs trafficking from the East…
https://www.nd.gov.hk/en/conference_proceedings/Drugs_proBK_Part1/Drugs_proBK_Georges.pdf

c. £You can knock us for Tyres replacement at record lower prices compare to others.
https://a1carcarecentre.co.uk/tyres-bethnal-green/

- In Spanish, we see theme vowels and desinences in compounds:

(30) a. *sordomudo*
sord -o mud -o
deaf -DES mute -DES
'deaf-mute'

b. *parabrisas*
para -a bris -a -s
stop -THV wind -DES -PL
'windshield' (Lit. 'wind stopper')

- This appears to be inherent inflection on Booij's (1996) typology. Notice that even if *sordomudo* 'deaf-mute' refers to a person who identifies as a woman, only the inflection on the rightmost head is sensitive to this:

(31) a. *sordomuda*
una sord -o mud -a
a.FEM deaf -DES mute -FEM
'a deaf-mute (woman)'

b. **sordamuda*
una sord -a mud -a
a.FEM deaf -FEM mute -FEM
'a deaf-mute (woman)'

I found 800 hits for *sordomudo* in BYU's Spanish NOW Corpus, 600 for *sordomuda*, but only 4 for *sordamuda*.

- However, contextual morphology does appear to occur occasionally, as can be seen in the Danish example Fábregas and Scalise (2012) give:

(32) *nytår*
ny -t år
new -NEUT year
'new year'

- So it seems that, to a limited extent, compounds must be able to include *some* amount of inflectional morphology.

We should think about how this limitation arises.

2.3 Headedness

- As with derivational affixation, many (though not all) compounds exhibit HEADEDNESS, where one of the elements in the compound (the HEAD) determines the semantic and grammatical properties of the compound.
- However, not all compounds appear to be headed. We draw a distinction between ENDOCENTRIC and EXOCENTRIC COMPOUNDS.
  - Endocentric compounds are compounds whose properties follow from one of the two elements in the compound.
  - Exocentric compounds are compounds whose properties do not follow directly from either of the elements in the compound
- All of the cases in (1)–(12) are endocentric.

  English endocentric compounds are usually right-headed.
  - The rightmost element in each of these determines the category and syntactic properties of the compound.
  - In most cases, this element determines what the semantics of these elements are.
- In many compounds, it is possible to switch the order of the elements, but note that this has the effect of changing the overall meaning of the compound:

  The ability to change the order is sometimes called POSITIONAL FREEDOM. This is one way compounding differs from affixation.

  (33) a. a bike race (A kind of race using bikes)
  b. a race bike (A kind of bike for races)
  - The change in meaning occurs since changing the order changes the head.
- Exocentric compounds are less common in English, but there are many of them:

  (34) a. *a killjoy* 'someone who's no fun'
  b. *a scarecrow* 'an effigy used to deter birds'
  c. *a pushover* 'someone who is easily taken advantage of'
  d. *takeout* 'food ordered from a restaurant for home consumption'

  This one is also an adjective.
  - Notice that *killjoy* doesn't describe a type of joy (or even emotion), and that *scarecrow* doesn't describe a kind of bird.
  - *Push over* and *take out* are nouns, but don't even have nouns in them.
  - In no case does either element determine the properties of the compound.
- In some cases we can see how these came into existence, but deriving the meanings from the component parts requires some work.

  It's not even obvious how to account for the grammatical properties. This is likely related to conversion in some way.
  - This is not unrelated to the lack of transparency sometimes observed in derivational affixation.
  - Presumbably, the meaning and categories of these compounds have to be listed somewhere, as they are idiosyncratic.

2.4 Categorizing compounds

- In addition to headedness, we can also categorize compounds on the basis of the semantic relation between elements in the compound.
- Coordinative compounds are compounds whose elements behave as though they are conjoined:

(35) a. *a singer-songwriter* 'someone who writes and sings their own songs'
b. *bittersweet* 'mixture of bitterness and sweetness'
c. *a sofa-bed* 'a sofa that turns into a bed'

Songwriter is itself a compound.

  - In these cases it is not easy (or possible) to identify the head (*e.g.*, a singer-songwriter is as much a kind of singer as a kind of songwriter).
  - These may well be exocentric.

- Elements in a subordinative compounds are in a less symmetric relation with each other, usually more akin to a semantic role or where the non-head acts as a modifier.

(36) a. *gas station* 'a place where gas may be purchased'
b. *sky blue* 'blue the colour of the sky'
c. *dry clean* 'to clean without water (using other chemicals)'

- The coordinative–subordinative distinction is a fairly traditional one; however, Fábregas and Scalise (2012) further distinguish attributive compounds (typically a form of subordinative compound), where the non-head predicates some properties of the head.
- Cross-linguistically, each of these behaves slightly differently from the others.
- For instance, in Germanic languages all three forms of compounding are productive.
- In Romance, on the other hand, subordinative compounding is not. Coordinative compounds can be used to form new coordinative compounds:

(37) a. bar pizzería ⇒ bar pizzeria
'pizzeria-bar'
b. bar pizzería discoteca
bar pizzeria discotheque
'pizzeria-bar-nightclub'

- Subordinative compounds, on the othe rhand, are not so productive.

(38) a. hombre lobo ⇏ man wolf
'werewolf'
b. *hombre lobo rana
man wolf frog
'frog-werewolf'

- Thus, there must be some grammatical differences between these that languages encode.

2.5 Summary

- There are several properties of compounds to keep track of:
  - They (sort of) differ from phrases regarding their interaction with stress, movement, reference, and coordination.
  - The first element in a compound tends not to bear inflectional morphology, but can be derivationally complex.
  - Compounds can be endocentric (having a head) or exocentric.
  - The elements in a compound can interact semantically in different ways.

3 Synthetic compounds

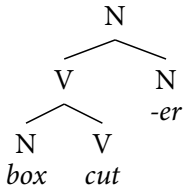
- In this section, I want to turn to a kind of compound that has received a great deal of attention in the literature: SYNTHETIC COMPOUNDS.
  - These are subordinative, endocentric compounds that are usually composed of a nominalized verb as the head and the would-be internal argument of that verb as the non-head.
  - The relation to the underlying verb (and thus the argument structure) is fairly transparent:

(39) a. *stamp collector* 'someone who collects stamps'
b. *box cutter* 'a device that cuts cardboard boxes'
c. *student recruitment* ''
d. *letter writing* 'practice of writing letters'

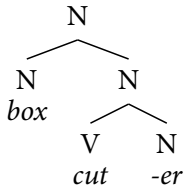
- The reason these have received a lot of attention is that it isn't obvious what the structure of them should be. Take *box cutter*:
  - If *box* is an argument of *cut*, then one might assume they combine before *-er* nominalizes the verb. But this predicts the nonexistent verb **to box cut*.
  - If one assumes derivation precedes compounding, *cutter* would be derived before it combines with *box*. But then how does it assign a θ-role to *box*?

You might make this assumption if you are a lexicalist. We are combining *words*, after all.

(40) a.



b.



- Let's think about what has to happen in these cases to explain the relation between the head and the non-head.
  - First, I want to take a detour through a process known as INCORPORATION that occurs in many non-European languages.
  - Then we'll turn to an analysis of compounding in DM that tries to derive the properties of synthetic compounds from the properties of the roots.

3.1 Incorporation

- Incorporation is a phenomenon that occurs in many languages where one lexical item appears to become part of another.
- Noun incorporation occurs when a noun combines with a verb that takes it as an argument, forming a morphologically complex verb:

(41) *Onondaga* (Iroquoian; Ontario, New York State): Cited in Baker 1988: 77–78.

a. Pet waʔ-ha-htu-ʔt-aʔ neʔ o-hwist-aʔ.
Pat pst-3msg-lost-caus-asp the pre-money-suf
'Pat lost the money.' (No incorporation)

b. Pet waʔ-ha-hwist-ahtu-ʔt-aʔ.
Pat pst-3msg-money-lost-caus-asp
'Pat lost money.' (Noun incorporation)

- In (41a), we see the verb and direct object are distinct words; the object even occurs with a determiner and some other morphology.
- In (41b), however, the object is now buried inside the verb in front of the verb root but following the tense and agreement morphology.

- This is not restricted to verbs; nouns may also incorporate into prepositions:

(42) *Mohawk* (Iroquoian; southern Ontario, Québec): Cited in Baker 1988: 90

… o'k' tcinōwę' e' t-oñ-tke'totę' o-ner-a'tōkǫ'.
just mouse there du-3n-peeked pre-leaf-among
'A mouse peeked up there among the leaves.'

- Noun incorporation is fairly common phenomenon cross-linguistically, happening in typologically diverse languages:

(43) *Ojibwe* (Algonquian; Canada, Northern US): Cited in Mathieu 2013: 100–101.

a. Gii-naadi-miijim-ee-w.
pst-fetch-food-v.intr-3sg.s
'He went after some food'

b. N-ga-naad-in miijim
1-fut-fetch-v.tr food
'I will get food'

(44) *Nahuatl* (Uto-Aztecan; Mexico, Central America): Merlan 1976: 184

A: Matyaka šočikalli, necpaktiya k^{w}atini
imp.1pl.go.pl garden, 1sg.like trees
'Let's go to the garden, I like (the) trees.'

B: Naʔ aš niʔneki niyas, naʔipanima ni-k^{w}atini-itt
1sg neg 1sg.it.want 1sg.go.sub, 1sgalways 1sg-tree-see
'I don't want to go, I always see trees.'

3.1.1 *Deriving incorporation with head movement*

- The classic work on incorporation is Baker's (1988) book, and his analysis has been quite influential

Jorge Hankamer has the entire book on his website.

- As Baker points out, a core fact about noun incorporation is that objects may be incorporated, but subjects may not be:

(45) *Mohawk*:

Cited in Baker 1988: 81–82

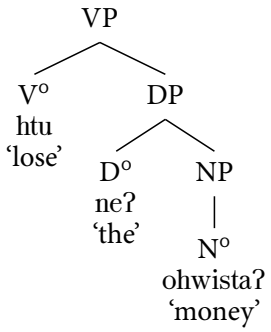
a. Yao-wir-aʔa ye-nuhweʔ-s ne ka-nuhs-aʔ.
PRE-baby-SUF 3FS/3N-like-ASP the PRE-house-SUFF
'The baby likes the house.'

b. Yao-wir-aʔa ye-nuhs-nuhweʔ-s.
PRE-baby-SUF 3FS/3N-house-like-ASP.
'The baby house-likes.' (Object incorporation)

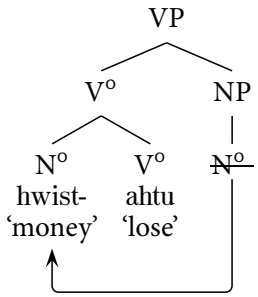
c. *Ye-wir-nuhweʔ-s ne ka-nuhs-aʔ.
3FS/3N-baby-like-ASP the PRE-house-SUFF
'Baby-likes the house.' (Subject incorporation)

- Baker's proposal, then, is that noun incorporation is effected by head-to-head movement of the noun to the verb.

(46) a. *VP structure in (41a)*:



b. *VP structure in (41b)*:



I assume the verb then moves up the tree to collect verbal inflectional affixes.

  - (The head of) an internal argument of the verb moves to the next highest head (the verb).
  - External argument (*e.g.*, subjects), being located in specifiers, cannot head move to V° and therefore cannot incorporate.

I assume the incorporation structure lacks a determiner because no determiner is incorporated.

3.1.2 *Relation to synthetic compounds*

- Baker (1988: 78) immediately notes the similarity to synthetic compounds here, noting that like incorporation the result is a new word:

(47) Pat is a hopeless money-loser.

- But he also points out that the result must be deverbal: This can only make nouns and not verbs.

  This is the observation above that there is no verb **to box cut*.

  - Apparent counterexamples, like *grocery shop* and *bartend* are actually back-formations from the synthetic compounds.

- Furthermore, in languages like Mohawk, the incorporated noun can still refer to a previously discussed element.

(48) *Mohawk*:

Cited in Baker 1988: 79

No:nv akwe: yo-stathv no-:nvhst-e sok nu:wa v-tsaka-nvhst-aru:ko.
when all 3N-dry PRE-corn-SUF then now FUT-1PS-corn-take.off
'When the corn was completely dry, it was time to shell it.'

- The noun part of the compound behaves differently than incorporated nouns in that they don't seem to refer to specific things in the world:

(49) A: Why did Pat ask me if I'd seen that money?
B: Because he is a money-loser.

  - Critically, Pat doesn't need to have lost the money in question for it to be true that Pat to be a loser of money.

- Baker (1988: 80) ultimately settles on the idea that English compounds are formed in the lexicon and cannot be formed in the syntax.

3.2 Compounding in DM

- Still, there is a sense that there is something insightful here for the derivation of synthetic compounds, especially since using head movement to generate morphologically complex words has flourished since the mid 1980s.

  This flourishing is, in no small part, the result of Baker's work.

  - Even if Baker rejects the idea that synthetic compounds are derived by incorporation, it is nonetheless worth seeing if such an approach is possible.

- Harley (2009) attempts exactly this. As with our discussion of derivation in Distributed Morphology, we'll assume the following:

  Harley's paper is available on her website.

(50) *Some key assumptions*:

  See last week's handout on Derivational morphology.

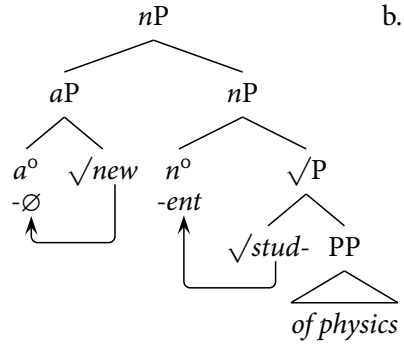
  a. Morphemes are independent entities that occupy terminal nodes of a hierarchical structure built by the syntax with normal syntactic processes.
  b. The syntactic terminal nodes are fully specified for featural (and semantic) content. Each terminal node receives a pronunciation after the syntax is finished.
  c. All lexical words are based on roots that have no inherent category. Category is determined by combining with functional elements that have category features.

- Here, Harley argues that arguments of roots are the sisters of the root, combining before categorizing material is added; modifiers adjoin to the phrase formed by the categorizing heads:

This, ultimately, decides between the structures in (40): We combine the argument before we nominalize.

(51) new student of physics

a.



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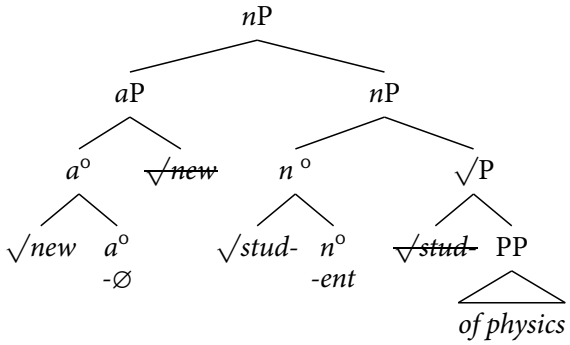
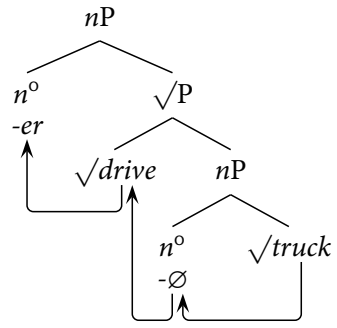


3.2.1 *Deriving synthetic compounds with head movement*

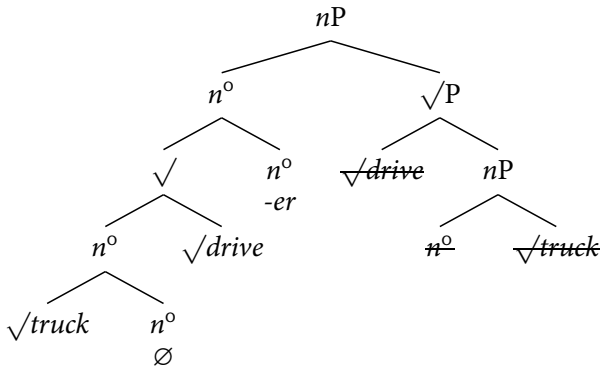
- On this view, synthetic compounds are derived by simple head movement from one head position to the next.
  - This works in essentially essentially the same way as derivation in DM.

(52) *Derivation of* truck driver:

a.



b.



- Notice that this appears, at first, to sidestep one of Baker's (1988) concerns: We never form a verb **truck-drive* because there is no verbal category head here.
- It also explains some aspects of compounding. For instance, it is not possible to extract out of a complex head, explaining why we can't move *truck* out of *truck-driver* (**It's truck that he's a driver*).

This…probably won't work, then. All we need is a verb with with a verbalizing suffix to be nominalized. We'll come back to this

3.2.2 *Adjectival parasynthetic compounds*

- Harley goes on to show that the theory can account for various deverbal adjectival modifiers as well:

(53) a. *quick-acting* baking powder
b. *fast-falling* snow
c. *snappy-looking* suit
d. *light-stepping* horse

- At first, these seem harder to deal with because the first elements of each of these compounds are not arguments of the verb the head is derived from.
- Harley (2009), however, assumes Bare Phrase Structure (Chomsky 1995), like most Minimalist syntacticians.

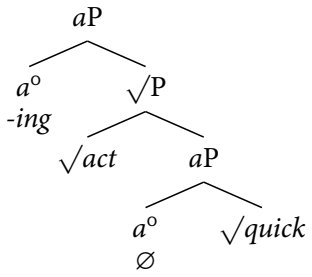
Bare Phrase Structure replaces X̄-theory in most Minimalist models.

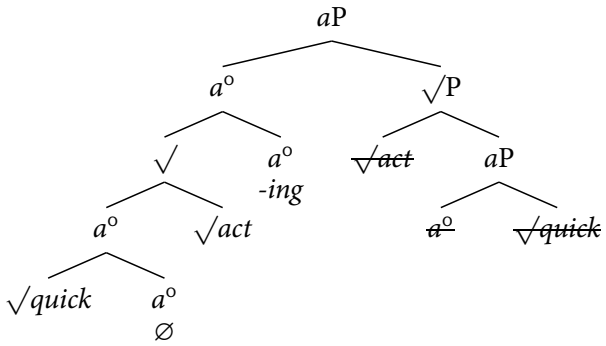
  - On this theory, the structural distinction between an adjunct and an argument is much blurrier than in X̄-theory, so much so that it's not totally possible to state what the difference is.
  - Harley takes advantage of the ambiguity; an adjectival modifier on a root looks indistinguishable from an argument of a root.

- What this means is that the modifiers of these roots *can* move to the root, deriving the compound.

We do have to make one strange assumption here, as Harley admits, which is that we have to allow *-ing* to attach to roots in just this case.

(54) *Derivation of* quick-acting:

a.


b.


3.2.3 *The problem: The heads of some compounds must contain verbs*

- There are several reasons this analysis is troubling, though.
  - Harley spends time worrying about why determiners cannot be part of compounds in these cases. Why is **a the-truck-driver* not possible?
  - Since DM doesn't make a real distinction between inflection and derivation, why can't the first element bear inflection?

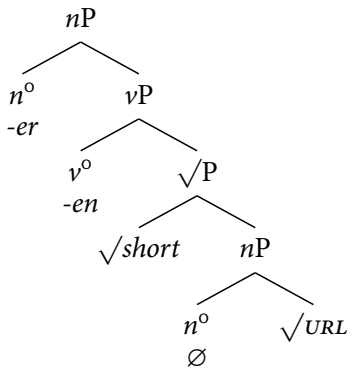
One thought she has is that D° and Num° simply can't drive head movement in English, so they don't permit the prerequisite *n*°-to-D° movement. This is probably related to my point above about referentiality in compounds in Section 2.1.3.

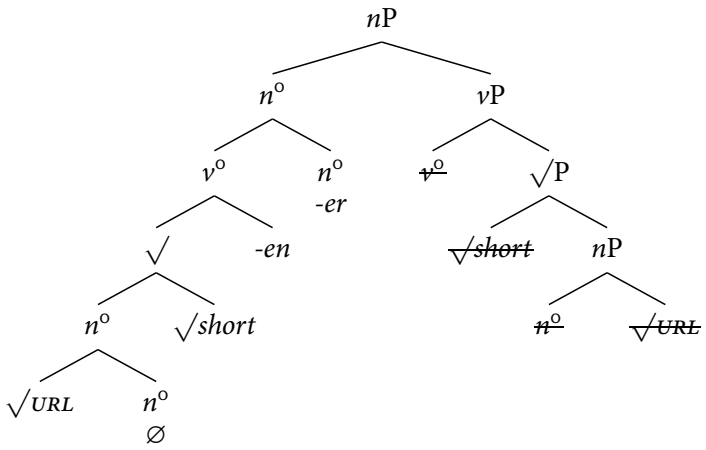
- A problem she doesn't notice, though, is the one I mention in the sidebar above: Verbalizing morphology does occur in the head:

(55) a. URL shortener
b. hand sanitizer
c. a pressure intensifying device

- The problem is that affixes like *-en*, *-ize*, and *-ify* must all be v^{o} heads under DM, which means that these compounds must be formed from verbs.

(56) *Possible derivation of* URL shortener:

a.


b.


- But this requires **URL shorten* to be a verb, which is the exact issue Baker raises.
  - That is, trying to avoid forming non-existent verbs by using roots in compounds isn't actually a viable way forward here.
  - The basic empirical data requires the head of the compound, on this analysis, to incorporate a verbalizing suffix.

3.2.4 *Those weird Romance compounds*

- Another case that poses problems for Harley are the Spanish compounds we talked about during the first lecture:

(57) *Compounds in Spanish*:

a. *lavaplatos*	b. *matamoscas*	c. *paraguas*
lava- platos	mata- moscas	para- aguas
wash plates	kill flies	stop waters
'dishwasher'	'fly swatter'	'umbrella'

- Like English compounds, it is possible to build recursive ones:

(58) *Recursivity of compounds in Spanish*:

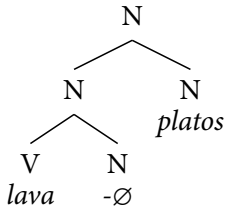
a. *parabrisas*	b. *limpiaparabrisas*
para- brisas	limpia- para- brisas
stop- winds	clean- stop- winds
'windshield' (Lit. 'windstopper')	'windshield wiper'

- Fábregas and Scalise (2012: 118) suggest these compounds could conceivably be built the same way as English builds its parasynthetic compounds.
  - The differences are that the nominalizing suffix would be null and the head comes to the left.

This suggestion is due to Varela (1989).

- Using their simple representation:

(59)



- This goes the opposite direction from Harley's assumption about how the .
- The noun *platos* 'plates' is an argument of the derived noun *lava*+∅ 'washer'.

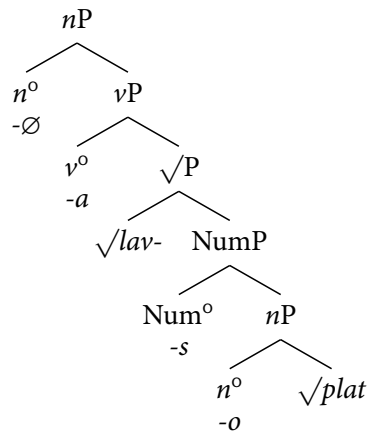
Again, compare the options in (40).

- We know the thing on the left has to be a verb because it occurs with its theme vowel, a property of verbs.
  - Again, that makes it seem like positing a verbalizing head is unavoidable.
  - Furthermore, if we adopt Harley structures outright, we cannot derive the correct order of verb and noun in this compound:

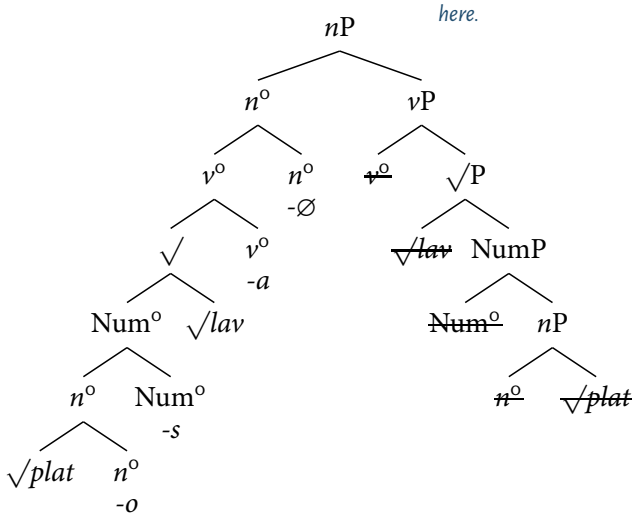
(60) *Impossible derivation of* lavaplatos *following Harley (2009)*:

I've simplified the representation of theme vowels and desinences here.

a.



b.



- The only ways you might order the elements in this (very) complex head are **platoslava* or, maybe, **lavplatosa*.
- Now, the reason this fails could simply be because Fábregas and Scalise's adoption of Varela's idea is wrong and there's no null nominalizer.
  - It would follow from this that they have to be derived in some other way.

You also still run into Baker's critique!

3.3 Summary

- I've always thought this Harley paper was very insightful, but there are two many problems for it to work out of the box.
- I don't, unfortunately, know of much other work on compounding in DM. It appears to be relatively understudied.

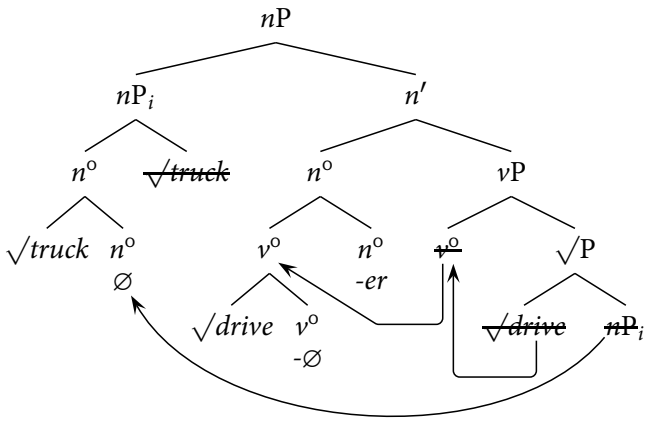
Harley 2009 was the only paper on compounding in DM in 2009, AFAIK.

- I suspect, looking back at our compounding diagnostics from before, that what is going on here is more complicated that simple head movement.
  - Example (26a), repeated here as (61), allows for coordination in the first element.
  - This could well be a signal that the non-head element is in fact a full NP rather than just a head.

(61) Alex is a [tea and coffee]-drinker.

- Perhaps, then, the nominalizing head (*-er*, *-ment*, *etc.*) has a specifier position and attracts the complement of the root/verb it incorporates:

(62)



I just made this up. I have no idea how robust it is, but it's an attempt to make sense of the data we saw above. One issue is it has is that further movement of *n*P might be possible, but that could get ruled out if DPs are not targeted for movement. So the question, then, is why DPs cannot be the complement of the root here.

Terms

attributive compound A compound in which the non-head predicates some properties of the head.

bound morpheme A morpheme that cannot stand on its own and that must attach to another morpheme.

compounding A derivational process that combines two morphologically free elements to form a new word.

coordinative compound A compound whose elements behave as though they are conjoined.

endocentricity A property of some compounds where one word in the compound serves as the head determining the grammatical and semantic properties of the compound.

exocentricity A property of some compounds where no word in the compound serves as the head.

head (compounding) The word in a compound that determines the grammatical and semantic properties of the compound, including its syntactic category and its inflectional properties.

inherent inflection Inflectional morphology that is not required by the syntactic context, although it may have syntactic relevance (Booij 1996). Examples include the category number for nouns, comparative and superlative degree of the adjective, and tense and aspect for verbs.

subordinative compound A compound where the non-head is in a similar relation to the had as an argument to a predicate.

synthetic compound A kind of compound whose head is derived from a verb by affixation, and where the non-head is an argument of the verb.

References

Baker, Mark C. 1988. *Incorporation: A Theory of Grammatical Function Changing*. Chicago: University of Chicago Press.

Booij, Geert. 1996. Inherent versus contextual inflection and the split morphology hypothesis. In *Yearbook of Morphology 1995*, ed. Geert Booij and Jaap van Marle, 1–16. Dordrecht: Springer Netherlands.

Chomsky, Noam. 1995. *The Minimalist Program*. Cambridge, Mass.: MIT Press.

Fábregas, Antonio, and Sergio Scalise. 2012. *Morphology: From data to theories*. Edinburgh Advanced Textbooks in Linguistics. Edinburgh: Edinburgh University Press.

Harley, Heidi. 2009. Compounding in distributed morphology. In *Oxford handbook of compounding*, ed. Rochelle Lieber and Pavel Stekauer, 129–144. Oxford: Oxford University Press.

Lobeck, Anne, and Kristin Denham. 2014. *Navigating English Grammar: A Guide to Analyzing Real Language*. West Sussex, UK: Wiley-Blackwell.

Mathieu, Eric. 2013. Denominal verbs in Ojibwe. *International Journal of American Linguistics* 79:97–132.

Merlan, Francesca. 1976. Noun Incorporation and Discourse Reference in Modern Nahuatl. *International Journal of American Linguistics* 42:177–191.

Ross, John Robert. 1967. Constraints on Variables in Syntax. Doctoral Dissertation, Massachusetts Institute of Technology.

Varela, Soledad. 1989. Spanish endocentric compounds and the 'atom condition'. In *Studies in Romance Linguistics: Selected Proceedings from the XVII Linguistic Symposium on Romance Languages*, ed. Carl Kirschner and Janet Ann DeCesaris, Current Issues in Linguistic Theory, 397–411. John Benjamins Publishing Company.