
**Main point:** The combination of affixes and stems is a matter for morphology, where adjacency is important—and not (at least exclusively) a matter for syntax and head-movement.

The standard view of the grammar (“T model”)

1. Lexicon
   - overt syntax
2. Morphology
   - covert syntax
3. PF
4. LF

Tense inflection is assumed to be generated in Infl (i.e. T), a projection above the VP. Somehow, verbs end up with tense marking on them.

In French, verbs move to Infl. In English auxiliaries have and be also move to Infl.

But… In English main verbs do not move to Infl. So how to Infl and V get together?
- V starts out with tense inflection on it, moves to Infl at LF, where the verb’s inflection and the features on Infl are “checked” to be sure they match.
- Infl and V don’t get together in the syntax—part of pronouncing an affix is connecting it to a verb, a verb which has to be adjacent.

2. **The Adjacency Condition** (informal)
   In order for an affix and a stem to be combined, they must be adjacent.

*Adjacency* is not the kind of thing that syntax should care about—syntax should care about hierarchy. Adjacency is the kind of thing that phonology should care about.

A primary goal of the paper is to show that adjacency matters and so we should take affixation to be a post-syntactic operation of morphology/phonology.

### English do-support

English past tense inflection is an affix (-ed) and being an affix means needing to be hooked onto a verb.

3. Bill **-ed** eat cheese  “Bill ate cheese”

However, if something is placed between the affix and the verb, the affix is “stranded”

4. Bill **-ed** not eat cheese  “Bill did not eat cheese”

*do* is the “minimal” or “default” verb. -ed needs to be connected to a verb, there’s no verb, so a verb needs to be inserted for pronunciation. The default verb (no real meaning except for ‘verb’) is *do*.

Note: In these situations, as far as the syntax is concerned, tense is still in Infl and the verb is still in the VP—they’re just pronounced together in (3).

If *do* is inserted to support “stranded affixes” we can predict where *do* appears—in ways that a purely syntactic account would have trouble.

### 2.2 Do-support in questions

*do*-support is required for all non-subject questions with main verbs

5. a. What did John buy?  
   b. * What John bought?

6. a. When did John buy cheese?  
   b. * When John bought cheese?

7. a. What has John bought?  
   b. * What did John have bought?

…but in *subject* questions, *do*-support is impossible

8. a. * Who did buy cheese?  
   b. Who bought cheese?
If we assume a uniform syntax (I raises to C, wh-word moves to SpecCP), we have a simple explanation for why this is: in non-subject questions, the subject disrupts the adjacency between I and the verb (just like not):

(9) a. What –ed John buy t ?
    b. When –ed John buy cheese t ?

(10) Who –ed t buy cheese ?

2.3 Do-support in locative inversion.

“Locative inversion” refers to cases where a PP shows up first (looking like a subject).

(11) Into the auditorium poured throngs of undergraduates.
(12) In the corner stood a lamp.

But the postverbal NP is really the subject. Look: it controls agreement:

(13) a. In the corner stands a lamp.
    b. In the corner stand two lamps.

(14) a. Every Thursday at noon, over that bridge rides King John.
    b. Every Thursday at noon, over that bridge ride throngs of hungry peasants.

So, the postverbal NP is a subject in some relevant sense (in SpecIP at some point). Thus: if we question the locative PP, it’s a non-subject question.

Aren’t non-subject questions supposed to show do-support?

Yet, here they don’t…

(15) a. Into which auditorium poured throngs of undergraduates?
    b. * Into which auditorium did pour throngs of undergraduates?

But this is just what we’d expect based on adjacency.

(16) Into which auditorium C+I[-ed] t pour throngs of undergraduates?

Based on this is has been proposed that negation is just one value of an abstract functional head sometimes called ΣP (that can host not, so, or [+ACCENTED], all of which will disrupt adjacency).

VP ellipsis:

(18) John will buy cake and Mary will too.

VP-ellipsis leaves a second identical VP unpronounced:

(19) John will buy cake and Mary might buy cake too.

But with main verbs, you need do:

(20) John bought cake and Mary did too.

On the adjacency account, that’s like:


So do-support is expected, since we stranded the –ed.

But if I moved down to V, it’s less clear why you would need do:

(22) John t [VP buy+ed cake] and Mary t [VP buy+ed cake] too.

Also, interesting side fact:
The tenses don’t even have to match, yet they count as identical.

(23) John bought cake and Mary will too.
(24) John –ed [VP buy cake] and Mary will [VP buy cake] too.
(25) John t [VP buy+ed cake] and Mary will [VP buy cake] too.

Again, makes sense if bought is a phonological product of –ed buy.

Adverbs never disrupt adjacency; adverbs never disrupt any hierarchical relationship.

(17) a. I don’t like green eggs and ham.
    b. I do so like green eggs and ham.
    c. I DO like green eggs and ham.

An adverb –s never disrupt adjacency.
An adverb –s never disrupt any hierarchical relationship.
Other than bringing this up, he has nothing in particular to say—
- adverbs don’t count for adjacency is the bottom line.

Speculative footnote: Maybe adverbs are on a different plane (sticking out of the page).

3. Object shift—SVO languages

In SVO Germanic languages (other than English), object NPs can raise overtly to a position outside the VP (as marked by sentential negation markers, taken to mark the left edge of VP like English adverbs quickly or never).

(26) a. Igår läste de [Vp inte t₁] Swedish yesterday read they it not ‘They didn’t read it yesterday.’

b. Hann las (þær) [Vp ekkki (þær)] Icelandic he read them not them ‘He didn’t read them.’

c. Á barnum drakk stúdentinn bjórinn [Vp stundum t₁] Icelandic in bar.the drank student.the beer.the sometimes ‘In the bar, the student sometimes drank the beer.’

(27) a. Jón keypti (bókina) [Vp ekkki (bókina)] Icelandic John bought book.the not book.the (“old” must shift, ‘Jón didn’t buy the book.’)

Holmberg (1986): The availability of object shift is dependent on overt verb raising.

So, if there is an inflected auxiliary, or if the clause is embedded, the verb doesn’t move out and object shift is not possible.

(28) a. Det var godt [Cp at Peter [Vp ikkøbt den ]] Danish it was good that Peter not bought it. ‘It was good that Peter didn’t buy it.’

b. * Det var godt [Cp at Peter den [Vp ikkøbt t₁]]. it was good that Peter it not bought. (‘It was good that Peter didn’t buy it.’)

Chomsky 1993 made this very important—derived it from the theory of movement that without verb movement the object would be “trapped”—too far away to move out of the VP.

But consider...

If the verb raises (to I and then) to C, tense and the verb will be adjacent (they’ll be part of the same head)—never an issue about hooking the tense affix onto the verb.

Yet... If the verb doesn’t move and you shift the object, it will stand between Infl and the verb—disrupting adjacency (so the inflection can’t reach the verb).

(30) *Det var godt at Peter [tense] den ikke købte t₁.

(Preliminary) idea: These languages do not have the option of inserting a dummy verb. Given that, tense is left unsupported—the sentence is no good.

Object shift is also disallowed when there is an auxiliary in Infl and the verb is a participle. Clearly, the auxiliary and the participle do not need to be adjacent—
it is very common for the auxiliary to be in C and the verb to be left behind.

(31) [Cp hvorfor har [IP Peter [Vp ikkøbt den ]]]]? Danish why has Peter not bought it ‘Why hasn’t Peter bought it?’

The trick is the participle—it needs to get inflection from somewhere. It clearly can’t be getting it from the auxiliary itself, but consider:

(32) a. I write books
b. I have written books.
c. I am writing books.
d. I have been writing books.

Perfective have is followed by an –en form verb. Progressive be is followed by an –ing form verb.
A straightforward way to think of this is in terms of selection:
Perfective *have* selects an XP with the participle morphology –*en.*
Progressive *be* selects an XP with the participle morphology –*ing.*

(33) a. AuxP
    Aux'
    Aux
    PartP
    Part'
    Part -en
    VP
    write

b. AuxP
    Aux'
    Aux
    PartP
    Part'
    Part -ing
    VP
    write

And then –*en* and verb are pronounced *verben, -ing* and verb are pronounced *verbing.*
Just like –*ed* and verb are pronounced *verbed.*

So, if • What moves to C in V2 constructions is Aux (leaving PartP behind)
    and • A shifted object moves to a position between PartP and VP in Germanic
Then • The prohibition against OS in participle constructions follows as before.

We could restate Holmberg’s generalization as:
*Objects can shift unless they disrupt adjacency between affixes and their stems.*

Object Shift—SOV languages

*Turns out:* There are a bunch of languages where Holmberg’s generalization
(“object shift is only possible if V moves”) doesn’t seem to hold.
Object shift here is not constrained by V-movement.

*It also turns out:* These languages are the SOV Germanic languages.

Big problem for accounts where Holmberg’s generalization is a fundamental property
about hierarchy and structure (e.g. Chomsky 1993 mentioned before). The generalization
seems to make crucial reference to word order (which syntax isn’t supposed to do).

Easy under an adjacency account—the verbs and inflection are at the end, and so moving
the object left never could have the consequence that they get split up.

Extension: Modern Irish complementizers

VSO: Does V move to I and stop (with subject in SpecVP)
   does V move to C (with subject in SpecIP)?

McCloskey (1996) argued (well) that:
   • V+C form a phonological unit (suggests V is in C)
   but…
   • V hasn’t raised all the way to C.

Argument: Certain adverbs *when she got home* can only modify an IP (not a CP).

For example, *when she got home* follows *that* in English:

(34) Mary said *that* *when she got home* she went to bed.

But yet it still precedes *that* in Irish:

(35) Deirdís an chéad Nollaig eile go dtiocfadh sé aníos
    *They used to say that next Christmas he would come up.*

McCloskey concluded that C *lowers* to I, but on an adjacency story, C could *hop* to I.

There is reason to think C is still in C:
   • Negation is expressed with a negative complementizer.
   • Negative Polarity Items are licensed only when c-commanded by negation.
      —English: I didn’t see anything. I didn’t lift a finger.
      I didn’t tell Mary that John ate anything.
      *Anyone didn’t buy me presents.
      —Irish: Subject NPI’s are allowed (lic’d from C).
      Narrative Fronting topicalizes a constituent to IP.
      NPI’s are still licensed in Narrative Fronted constituents.

Extension: Bambara *ye*-support

Two options for marking perfective; verbal affix –*ra* or independent word *ye.*
Word order is: Subject Infl (object) verb (adjuncts)
Intransitive verbs use affix –*ra*, transitive verbs use word *ye.*
Conclusion: If an object separates Infl from the verb, Infl (normally –ra, like English past –ed) gets stranded. Result: ye support.

We can’t move the object away to test it, but we can make one tentative argument.

One account of unergative verbs is that there is a covert “cognate object”—that unergative verbs are really in some sense transitive too (cf. John danced a happy little dance).

There is reason to believe (based on an analysis of Basque) that cognate objects need Case too. Koopman (1992) based her account of the distribution of –ra and ye on Case principles. If Case principles don’t differ between transitives and unergatives, we would expect ye with unergatives. On the adjacency account, the fact that it is unpronounced means that we would expect –ra with unergatives.

Facts: Unergatives and unaccusatives both take –ra (not ye).
If optional cognate objects are realized, ye is used (not –ra).

But: The analysis is too focused/shallow to be convincing without dealing with the phenomenon in the wider context of the language.

The conclusion from object shift seems to be:
• If the derivation results in an improper morphological configuration (e.g., a stranded affix), the derivation is ungrammatical.

But this goes against a strong intuition that syntax should be autonomous—free from considerations of phonology.

A way out? Chomsky (1993) proposed that movement does not leave a trace… rather, movement leaves a full copy:

(36) The cake was eaten the cake, where (the cake, the cake) is a chain.

And then the phonology is responsible for “pronouncing the top copy.”

But why the top copy? Must it be the top copy? Perhaps “covert movement” is really “pronouncing the bottom copy”…

If we allow for pronouncing the bottom copy, we allow for a “Single Output Syntax” where the syntax produces a single representation that is both interpreted (LF) and pronounced (PF):

(37) Lexicon
   
   pronunciation ← Morphology ← Output → interpretation

Pronunciation: Pronounce the top copy if possible, but in the event that something goes wrong morphologically if the top copy is pronounced, pronounce the bottom copy.

Morphology filters syntax?

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