

Ling 315 Lecture notes. Wed 28 Feb 2007.

1. Bracket notation for trees. This set of notes uses labeled bracket notation, rather than trees, to represent constituent structure. This is common in texts in linguistics to save time and space.

Each pair of brackets represents a constituent, so that, e.g., the following set of brackets represents the NP *it*:

(1) [NP [Pron It]]

Note that the left inner bracket is labeled to indicate the node it represents, e.g., [NP].

The full constituent structure for *It could happen*, then, would be as follows:

(2) [CP [C] [S [NP [Pron It]] [T could] [VP [V happen]]]]

2. Transformations and rule ordering. Transformations are obligatory unless stated otherwise. Thus, every rule applies if it can.

Some transformations are crucially ordered. This ordering is reflected in the following list (but we will establish in class exactly which orderings are crucial, since not ALL of these rules are crucially ordered with respect to one another)

That-Deletion (Optional).

Elide the *C that* when it heads a verb's CP complement.

V-to-T Movement.

When T dominates only a suffix, raise V to the closest T.

Condition: Applies only to main verb *be*.

T-to-C Movement.

Raise T to the closest C.

VP Ellipsis (Optional).

Elide a VP if it's identical to a VP in preceding discourse.

Tense Hopping.

When T dominates only a suffix, lower T to the closest V.

Condition: T may not cross Neg.

Do-Support.

When T dominates only a suffix, insert the dummy aux *do*.

Topicalization.

Move a phrase to the left of C.

Crucial orderings can be established by showing that if the rules were applied in the wrong order, ungrammaticality would result. For example, consider the derivation for example (4), which is the VP-elided version of example (3).

(3) It is late. (4) It is.

To derive (4), *V-to-T Movement* must apply before *VP Ellipsis*, as main verb *be* needs to move to T before the VP it occupies at DS is elided:

DS: [CP [S [NP [Pron It]] [T -s] [VP [V be] [AP [A late]]]]] *V-to-T Movement* →

[CP [S [NP [Pron It]] [T [V be] [T -s]] [VP [AP [A late]]]]] *VP Ellipsis* →

SS: [S [NP [Pron It]] [T [V be] [T -s] (=is)]]

If the rules were applied in the opposite order, we would get the wrong result:

DS: [S [NP [Pron It]] [T -s] [VP [V be] [AP [A late]]]] *VP Ellipsis* →

[S [NP [Pron It]] [T -s]] *V-to-T Movement* can no longer apply

At this stage in the derivation, *V-to-T Movement* can no longer apply. The only rule that can apply to this structure in order to avoid violating the *Stray Affix Filter* is *Do-Support*, which would produce the wrong result:

SS: *[S [NP [Pron It]] [T do-s]]

This establishes that *V-to-T Movement* is crucially ordered before *VP Ellipsis*.

We can go through the same argumentation for other rule orderings as well. The following go through some, but not all of the crucial orderings. We will establish the rest in class.

V-to-T Movement must be ordered before *T-to-C Movement*, as main verb *be* needs to move to T before T moves to C:

DS: [CP [C] [S [NP [Pron It]] [T -s] [VP [V be] [AP [A late]]]]]

V-to-T Movement →

[CP [C] [S [NP [Pron It]] [T [V be] [T -s]] (= is) [VP [AP [A late]]]]]

T-to-C Movement →

SS: [CP [C [T [V be] [T -s]] (= is) [C]] [S [NP [Pron It]] [VP [AP [A late]]]]]

Tense Hopping must apply before *Do-Support*, as we only find *do* inserted when there is no other option for realizing the suffix in T:

DS: [S [NP [Pron She]] [T -ed] [VP [V laugh]]]

Tense Hopping →

SS: [S [NP [Pron She]] [VP [V laugh] [T -ed]]]

2. Verb Second (V2) in Germanic.

Based on examples like (12), we first hypothesized the rules in (6) for S and VP in German.

(5) Ich habe eine Katze gesehen.
I have a cat seen
‘I have seen a cat.’

(6) S → NP T VP
VP → NP V

Based on examples like the following, we concluded that German has *V-to-T Movement* for main verbs, rather than a rule of *Tense Hopping*.

(7) Siehst du eine Katze?
see you a cat
‘Do you see a cat?’

We observed that this would explain the position of the main verb in examples in which there is no auxiliary, since here the verb occurs in “second position”, i.e., following the first constituent in a clause.

(8) Ich sehe eine Katze.
I see a cat
‘I see a cat.’

(9) Ich sehe oft eine Katze.
I see often a cat
‘I often see a cat.’

However, we were forced to revise our initial hypothesis about the position of T when we saw that in embedded clauses, T is final if C is occupied:

(10) Er weiß, dass ich eine Katze gesehen habe.
He knows that I a cat seen have
‘He knows that I have seen a cat.’

(11) *Er weiß, dass ich habe eine Katze gesehen.
He knows that I have a cat seen

Based on this, we revised our S rule so that T is final:

S → NP VP T

This, however, forced us to reconsider the position of auxiliaries and main verbs in matrix (i.e., non-embedded) sentences, where they occur in “second position”, before VP:

(12) Ich habe eine Katze gesehen.
I have a cat seen
‘I have seen a cat.’

(13) Ich sehe eine Katze.
I see a cat
‘I see a cat.’

To account for the position of *habe* and *sehe* in these examples, we proposed that in German clauses, T moves to C via *T-to-C Movement*. The subject, *Ich* then moves to the left of C via a rule of *Topicalization*.

Unlike in English, *T-to-C Movement* is obligatory in main clauses, which accounts for German V2 word order: C is the so-called “second position” in a clause.

An example derivation:

- (14) Ich sehe eine Katze.
I see a cat
'I see a cat.'

DS: [_{CP} [_C] [_S [_{NP} [_{Pron} Ich]] [_{VP} [_{NP} [_D eine] [_N Katze]] [_V sehe]] [_T]]]

V-to-T Movement →

[_{CP} [_C] [_S [_{NP} [_{Pron} Ich]] [_{VP} [_{NP} [_D eine] [_N Katze]]] [_T [_V sehe] [_T]]]]

T-to-C Movement →

[_{CP} [_C [_T [_V sehe] [_T]]] [_C] [_S [_{NP} [_{Pron} Ich]] [_{VP} [_{NP} [_D eine] [_N Katze]]]]]]

Topicalization →

SS: [_{CP} [_{NP} [_{Pron} Ich]] [_C [_T [_V sehe] [_T]]] [_C] [_S [_{VP} [_{NP} [_D eine] [_N Katze]]]]]]

Support for a rule of Topicalization comes from the fact that different types of phrases may occupy the first position:

- (15) Ich habe oft eine Katze gesehen.
(16) Eine Katze habe ich oft gesehen.
(17) Oft habe ich eine Katze gesehen.

The pattern is the same when a sentence contains only a main verb, and no auxiliary. In this case, the main verb occurs in “second position” in matrix sentences:

- (18) Ich sehe oft eine Katze.
(19) Eine Katze sehe ich oft.
(20) Oft sehe ich eine Katze.

Many Germanic languages in this way exhibit **Verb Second** or V2 word order, where V2 describes a requirement on word order by which some constituent appears first in a clause, and the verb immediately follows it (thus occupying the “second position”). The first constituent counts, roughly, as the **topic** of the clause. Here are some examples:

There are some nice predictions that are borne out by this analysis, which we can see in embedded clauses. As we have already seen, when C is overt in an embedded clause, V2 order is not possible:

- (21) Er weiß, dass ich oft eine Katze sehe.
he knows that I often a cat see
“He knows that I often see a cat.”
(22) *Er weiß, dass ich sehe oft eine Katze.
(23) *Er weiß, dass eine Katze sehe ich oft.
(24) *Er weiß, dass oft sehe ich eine Katze.

- (25) Er weiß, dass ich eine Katze gesehen habe.
(26) *Er weiß, dass ich habe eine Katze gesehen.

Only when C is **not** occupied in an embedded clause can an auxiliary or main verb move into C, thus displaying V2 word order:

- (27) Er weiß, ich habe eine Katze gesehen.
He knows I have a cat seen
“He knows I have seen a cat.”
(28) Er weiß, sehe Ich eine Katze.
He knows see I a cat
“He knows I see a cat.”

This is explained if V moves into T, which then moves into C.

V2 **is** possible when there is **no** overt complementizer:

- (29) Er weiß, ich sehe oft eine Katze.
(30) Er weiß, eine Katze sehe ich oft.
(31) Er weiß, oft sehe ich eine Katze.