

# Contraction and repetition in English inverted conditionals

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# The phenomenon

- In English, conditionals can be formed by subject-auxiliary inversion, as in (1)
  1. Had I known he was a cop, I wouldn't have picked a fight.
- Many speakers also accept inverted conditionals in which the auxiliary appears to be repeated, as in (2)
  2. Had I'd known he was a cop, I wouldn't have picked a fight.
- **Goal of this project:** To understand the structure underlying examples such as (2), and its consequences for the English auxiliary system

# Summary

1. Properties of auxiliary repetition constructions
2. Analysis of auxiliary repetition
3. Consequences for English auxiliaries
4. Loose ends

# Properties of auxiliary repetition constructions

# Property 1: Second auxiliary is consonantal

- English auxiliaries often surface with segments "missing"
  - Ignoring variation in vowel quality, English auxiliaries have up to three forms (MacKenzie 2013; illustrated here with *had*)
    - Full form: [hæd]
    - Intermediate form: [əd]
    - Contracted form: [d]
  - **Property 1:** The second instance of the auxiliary must be in its contracted form (for almost all speakers)
3. \*Had I had known he was a cop, I wouldn't have picked a fight

## Property 2: Only with *had*

- In contemporary English, inverted conditionals can occur with *had*, *were*, or *should*
- 4. Were I to have known he was a cop, I wouldn't have picked a fight.
- 5. Should I have known he was a cop, I wouldn't have picked a fight.
- **Property 2:** Auxiliary repetition is only possible with *had*
- 6. \*Were I were to have known he was a cop, ...
- 7. \*Should I should have known he was a cop, ...
- This may be related to property 1: *were* and *should* don't have contracted forms

## Property 3: No semantic difference [1/2]

- Repeating the auxiliary does not have an obvious semantic effect
  - However, these inverted conditionals are reminiscent of other conditionals with "extra" auxiliaries
8. If I'd known he was a cop, I wouldn't have picked a fight.
9. If I'd've known he was a cop, I wouldn't have picked a fight.
- There is a subtle meaning difference between (8) and (9): in (8) but not (9), the *counterfactual inference* (that I did not know he was a cop) is defeasible (Biezma et al. 2014)
  - Could the same meaning contrast exist between (1) and (2)?

## Property 3: No semantic difference [2/2]

10. (Context: We're wondering if our friend Linda got the promotion she was competing for.)

Had she'd got the promotion, she would've replaced her old car. So judging by her new Toyota, she must have gotten the promotion.

- 7/8 speakers consulted accepted (6): auxiliary repetition does not impact the defeasibility of the counterfactual inference
- **Property 3:** Auxiliary repetition does not affect the interpretation



# Summary of properties

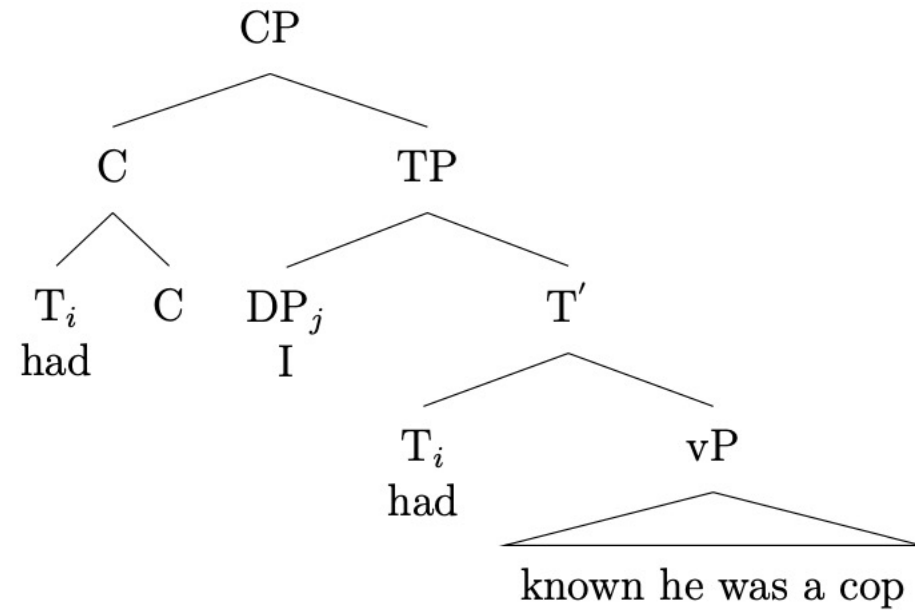
- To summarize the properties auxiliary repetition in inverted conditionals:
  - The second auxiliary must be in its contracted form
  - Auxiliary repetition only occurs with *had*
  - Auxiliary repetition has no semantic impact
- A successful analysis of auxiliary repetition should account for these facts

# Analysis of auxiliary repetition

# Theoretical ingredients

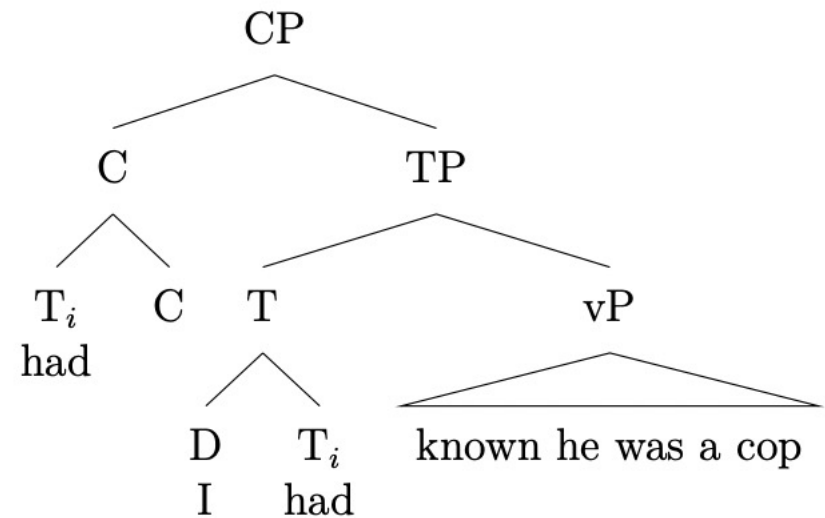
- Copy theory of movement: Movement forms copies of a constituent (Nunes 2004)
- Distributed Morphology
  - Lowering/m-merger: A post-syntactic operation that adjoins a head to the head of its sister (Embick & Noyer 2001; Matushansky 2006)
  - Fusion: A post-syntactic operation that fuses two terminal nodes into a single terminal node (Halle & Marantz 1993)
- Bare phrase structure (Chomsky 1995)
  - A constituent can be simultaneously maximal (a phrase) and minimal (a head)

# Assumed syntactic structure



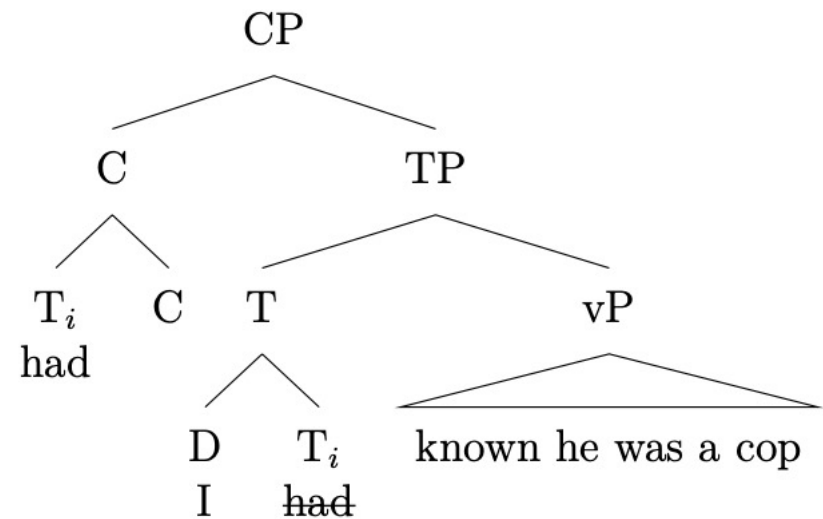
# Step 1: Lowering

- The subject pronoun / is both maximal and minimal
- Consequently, m-merger can adjoin the subject pronoun to the head of its sister



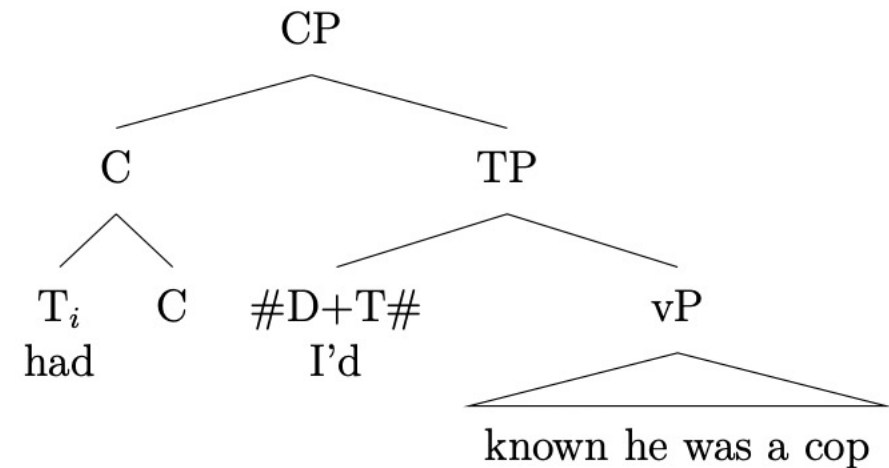
# Step 2A: Linearization + Copy Deletion

- If we linearize next, then we will get an unpronounceable ordering
  - Ex: *had* precedes itself; *had* both precedes and is preceded by *I*
- To resolve this, we delete the lower copy of *had*
- This generates the conditional without auxiliary repetition



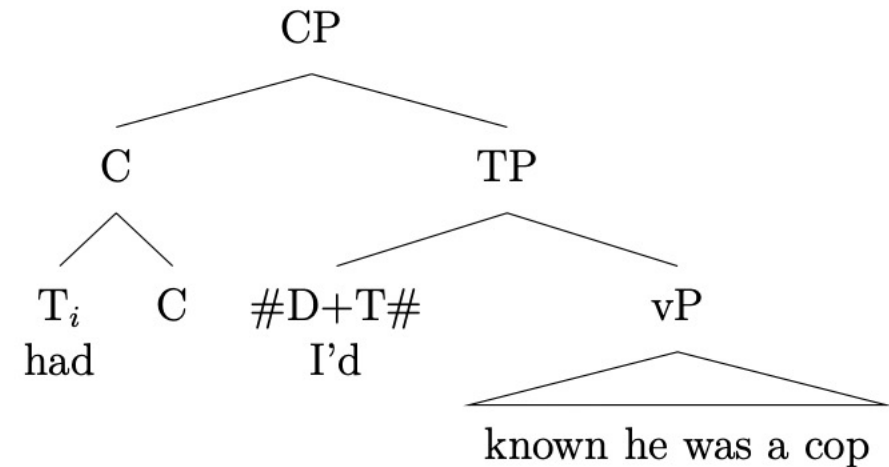
## Step 2B: Fusion [1/2]

- Suppose Fusion takes place before linearization
- Then the lower copy becomes hidden to linearization, which cannot "see into" heads
- Thus, the lower copy does not need to be deleted (Nunes 2004)



## Step 2B: Fusion [2/2]

- By assumption, #D+T# is realized as *I'd*, the subject pronoun plus contracted auxiliary
- This generates the conditional with auxiliary repetition





# Interim summary

- In (1), linearization precedes Fusion, so the lower copy of the auxiliary needs to be deleted
- In (2), Fusion precedes linearization, so the lower copy becomes invisible to linearization and does not need to be deleted
  1. Had I known he was a cop, I wouldn't have picked a fight.
  2. Had I'd known he was a cop, I wouldn't have picked a fight.

# Deriving property 1

- **Property 1:** The second instance of the auxiliary must be in its contracted form (for almost all speakers)
3. \*Had I had known he was a cop, I wouldn't have picked a fight
- I have proposed that the Fused #D+T# node is realized as the subject pronoun plus contracted auxiliary
  - Therefore, if we do not have a contracted auxiliary, we do not have Fusion
  - If we do not have Fusion, then the lower copy will be deleted

# Deriving property 2

- **Property 2:** Auxiliary repetition is only possible with *had*
- 6. \*Were I were to have known he was a cop, ...
- 7. \*Should I should have known he was a cop, ...
- The auxiliaries *were* and *should* do not have contracted forms
- This suggests that no Vocabulary Item spells out #D+T# when T=*were* or T=*should*\*
- If Fusion precedes linearization, then the lower copies of *were/should* will not be deleted
- However, there is no exponent for #D+T# in these cases, so Vocabulary Insertion fails, rendering (6) and (7) unacceptable

# Deriving property 3

- **Property 3:** Auxiliary repetition does not affect the interpretation
  1. Had I known he was a cop, I wouldn't have picked a fight.
  2. Had I'd known he was a cop, I wouldn't have picked a fight.
- (1) and (2) are identical in the narrow syntax
- They differ in which morphological operations have applied
- Assuming that morphological operations do not feed semantic operations, we predict (1) and (2) to have the same interpretation

# Consequences for English auxiliaries

# The Fusion analysis of contraction

- I have proposed that the realization of *had* as [d] occurs as part of exponents of #D+T#: *I'd, you'd, he'd*, etc.
- In other words, there is no Vocabulary Item [d] that realizes the past tense of the perfect auxiliary
- **Proposal:** Contracted auxiliaries (*e.g.*, [d] for *had*, [l] for *will*) are not Vocabulary Items unto themselves. They are components of Vocabulary Items that simultaneously realize the subject pronoun and T
- This proposal accounts for at least two properties of English auxiliary contraction

# Idiosyncratic pronunciations

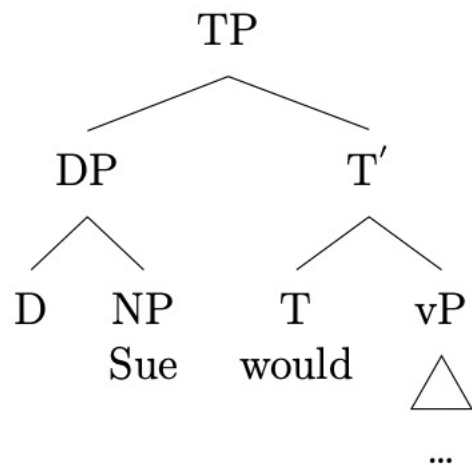
- **Property 1:** In some cases, subject pronouns appear to undergo idiosyncratic phonological processes when occurring with contracted auxiliaries (Wescoat 2005)
  - Ex: [əl] for *I'll* (cf. \*[məɪl] for *mile*)
- Under the present analysis, *I'll* [əl] and similar cases are stored as single Vocabulary Items. We do not need to propose lexically-specific phonological rules

# Restriction to pronouns (and wh-words)

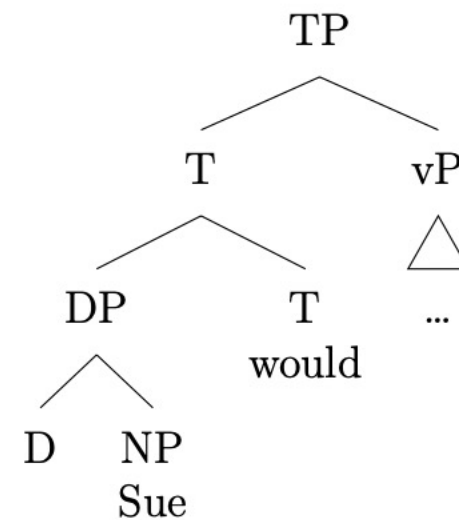
- **Property 2:** Contracted auxiliaries only occur with subject pronouns and wh-words
  - Ex: *you'd* [jud] but not *Sue'd* \*[sud]
- Auxiliary contraction depends on Fusion, which is fed by Lowering/m-merger
- Recall that m-merger targets *heads*, not phrases
- Subject pronouns (in Spec,TP) can undergo m-merger with T because they are minimal
- M-merger is blocked when the subject has internal structure



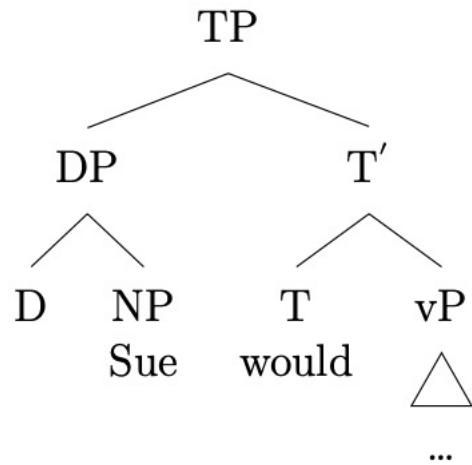
You can't lower  $[_{DP} [_D ] [_N \text{Sue}]]$



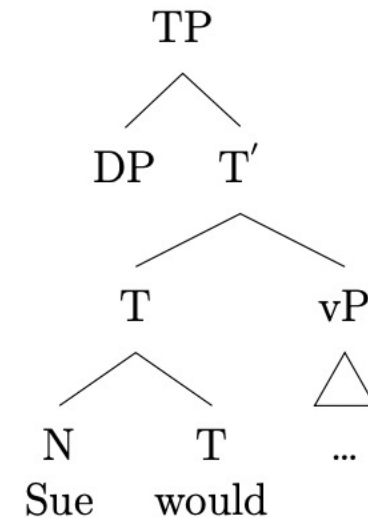
\* →



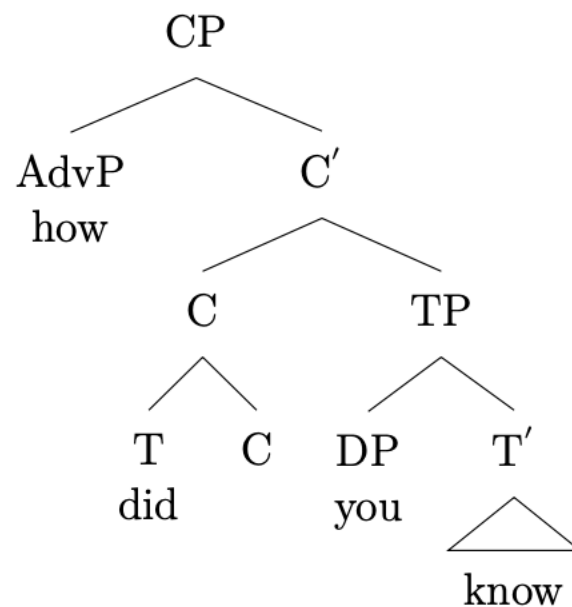
You can't lower [<sub>NP</sub> Sue] out of DP



\* →

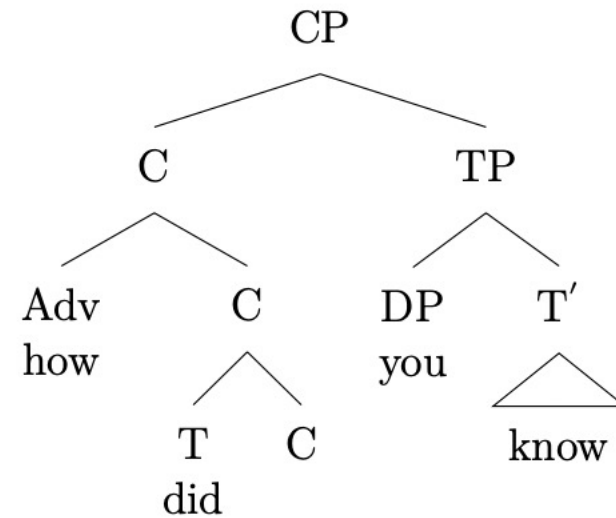


# Aside: Contraction with wh-words [1/3]



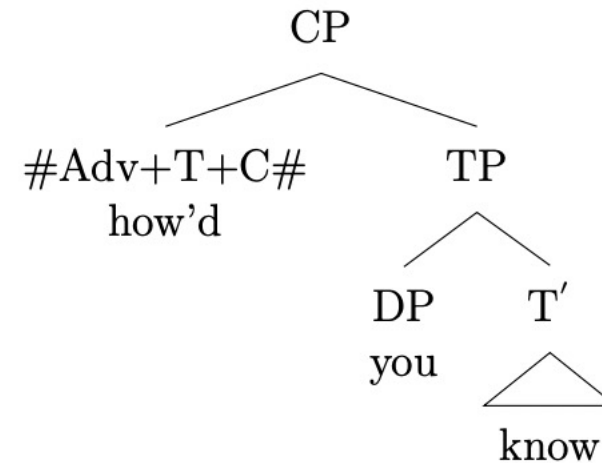
# Aside: Contraction with wh-words [2/3]

- First, [<sub>AdvP</sub> how] (which is both maximal and minimal) lowers to C



# Aside: Contraction with wh-words [3/3]

- Then T fuses with C, then Adv fuses with #T+C#
- #Adv+T+C# is spelled out as the question word plus contracted auxiliary



Loose ends

# Outside of inverted conditionals? [1/2]

- The analysis is not particular to inverted conditionals, so one wonders if auxiliary repetition is possible elsewhere
11. If I'd had done the readings, I would've passed the test. (5/2/1)
  12. Until 1949, after all, he'd had been living with a phantom of sorts, in the form of his younger sister, Catherine. (*The Guardian*)
  13. I texted my parents I love them and that I was sorry for everything I'd had gone through with them. (*NPR*)
- Some speakers allow *had* to be realized in its base merge position,  $v_{\text{perf}}$  (Harwood 2015)

# Outside of inverted conditionals? [2/2]

- The optionality is for the same reason as before: Fusion can either precede or follow linearization (and thus Copy Deletion)

## Fusion precedes Linearization

Input	[CP [TP I [T' had [PerfP had [VP ... ]]]]]
Lowering	[CP [TP [T' [T I had ] [PerfP had [VP ... ]]]]]
Fusion	[CP [TP [T' [D+T I'd ] [PerfP had [VP ... ]]]]]
Linearization/Copy deletion	N/A
Output	I'd had ...

## Linearization precedes Fusion

Input	[CP [TP I [T' had [PerfP had [VP ... ]]]]]
Linearization/Copy deletion	[TP [T' [T I had ] [PerfP <del>had</del> [VP ... ]]]]
Lowering	[CP [TP [T' [T I had ] [PerfP had [VP ... ]]]]]
Fusion	[CP [TP [T' [D+T I'd ] [PerfP <del>had</del> [VP ... ]]]]]
Output	I'd ...



# Repetition of other auxiliaries?

- Repetition only seems to be possible with *had*

14. \*Will he'll leave soon?

15. ?Would she'd even go?

- One explanation is that for auxiliaries other than *had* (and maybe *would*), Fusion must follow linearization, causing lower copies to be deleted
- However, it is unclear why this should be so

# Repetition of subjects?

- Even though Fusion should render subject pronouns invisible to linearization, they do not repeat

16. \*Had I'd I known he was a cop, I wouldn't have picked a fight.

- This cannot be because Fusion follows linearization, since Fusion must precede linearization in (16) to get auxiliary repetition

# Summary

- English allows auxiliary repetition in inverted conditionals (and perhaps other environments)
- This auxiliary repetition involves the realization of multiple copies of the auxiliary, one of which has undergone Fusion
- The Fusion analysis of contraction explains why contracted auxiliaries only occur with subject pronouns and wh-words
- However, it remains unclear why repetition of other auxiliaries and of subject pronouns does not occur

# References

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