

Typological Implications of Tier-Based Strictly Local Movement

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SCiL 2022
February 7–9, 2022

The talk in a nutshell

- ▶ Movement/Displacement is a fundamental property of syntax.
- ▶ It has been argued that **tier-based strict locality (TSL)** is the computational core of movement.
- ▶ **New evidence that TSL is on the right track:**
correctly predicts numerous attested movement phenomena

Minimalist grammars and movement

Who does Mary think might buy what?

Minimalist grammars and movement

Who does Mary think $\langle \text{who} \rangle$ might $\langle \text{who} \rangle$ buy what?

The diagram illustrates the movement of the first 'who' from its original position to the start of the sentence. A dashed blue arrow originates from the 'who' in 'might who buy what?' and points to the 'who' in 'Who does Mary think...'. A second dashed blue arrow originates from the 'who' in 'Who does Mary think...' and points to the 'who' in 'might who buy what?'. This represents the movement of the first 'who' to the start of the sentence, while the second 'who' remains in its original position.

Minimalist grammars and movement

Who does Mary think $\langle \text{who} \rangle$ might $\langle \text{who} \rangle$ buy what?

nom^- , wh^-

The diagram illustrates movement in the sentence "Who does Mary think $\langle \text{who} \rangle$ might $\langle \text{who} \rangle$ buy what?". Two dashed blue arrows originate from the $\langle \text{who} \rangle$ in the object position of the embedded clause ("might $\langle \text{who} \rangle$ buy what?"). One arrow points to the $\langle \text{who} \rangle$ in the subject position of the same clause, representing movement for Case (nom⁻). The other arrow points to the $\langle \text{who} \rangle$ in the main clause ("Who does Mary think..."), representing movement for Wh-agreement (wh⁻).

Minimalist grammars and movement

Who does Mary think $\langle \text{who} \rangle$ might $\langle \text{who} \rangle$ buy what?

$\text{nom}^+ \text{nom}^-, \text{wh}^-$

Minimalist grammars and movement

Who does Mary think $\langle \text{who} \rangle$ might $\langle \text{who} \rangle$ buy what?

$\text{nom}^+ \text{nom}^-, \text{wh}^-$

The diagram illustrates the movement of the wh-phrase 'who' from its base position (object of 'buy') to its surface position (subject of the embedded clause). Two dashed blue arrows show the movement path: one from 'what?' to 'buy', and another from 'buy' to the first 'who'. Below the second 'who' and 'might' are the feature labels nom^+ and nom^- in blue, followed by a comma and wh^- in green.

Minimalist grammars and movement

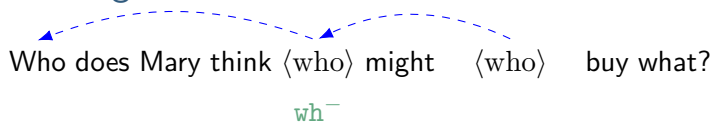
Who does Mary think $\langle \text{who} \rangle$ might $\langle \text{who} \rangle$ buy what?

$\text{nom}^+ \text{nom}^-, \text{wh}^-$

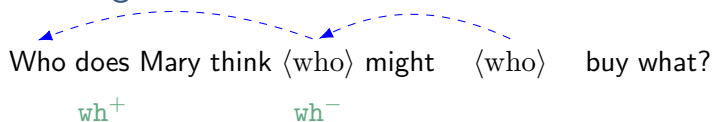
Minimalist grammars and movement

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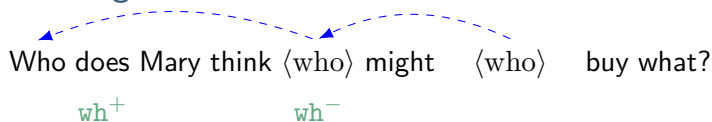
wh^-



Minimalist grammars and movement



Minimalist grammars and movement



Minimalist grammars and movement

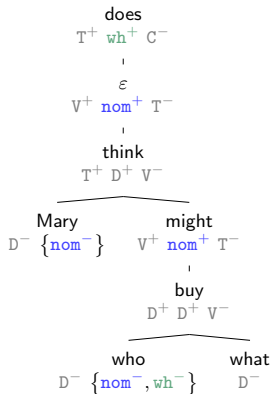
Who does Mary think $\langle \text{who} \rangle$ might $\langle \text{who} \rangle$ buy what?

The diagram illustrates the movement of the first 'who' in the sentence 'Who does Mary think who might buy what?'. A dashed blue arrow originates from the 'who' in the second clause ('might buy what?') and points to the 'who' in the first clause ('Who does Mary think...'). This represents the movement of a wh-phrase from its base position to the specifier position of a clause.

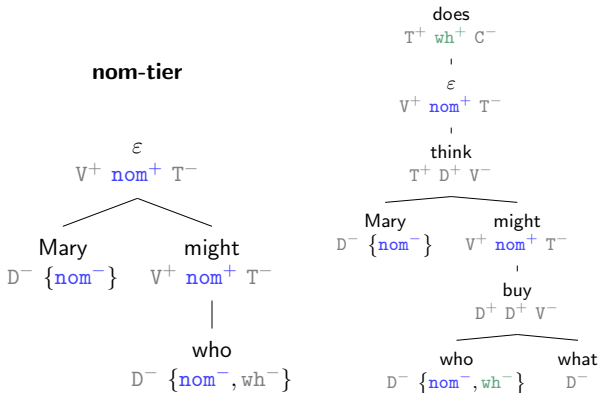
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Movement in MGs is tier-based strictly local (TSL)

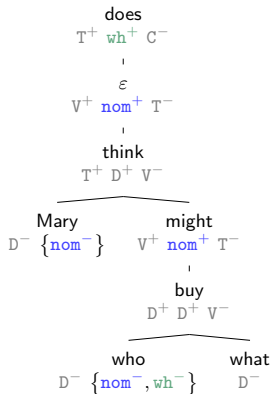
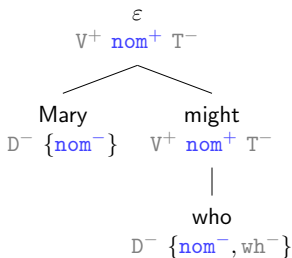


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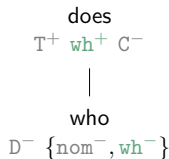


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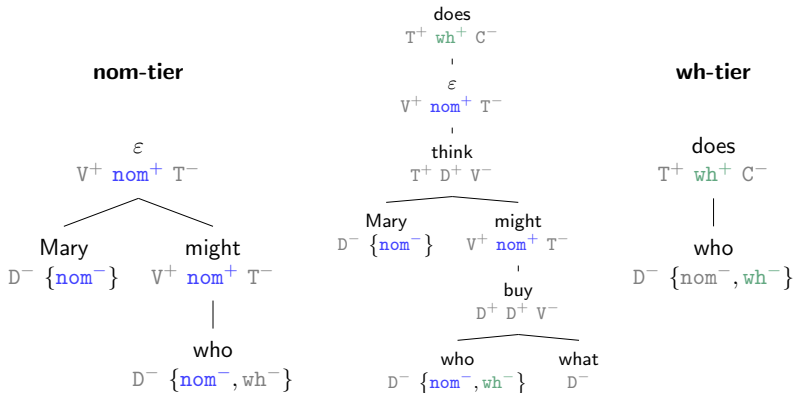
nom-tier



wh-tier



Movement in MGs is tier-based strictly local (TSL)



Feature checking as a constraint on each f-tier

- 1 Every f^+ has **exactly 1 f^-** among its daughters.
- 2 Every f^- has **f^+ as its mother**.

Who cares?

- ▶ **Question:** What **new insights** does TSL offer?
- ▶ **Existing answers** (conceptual)
 - 1 Parallels to TSL string dependencies in phonology, morphology, and semantics (Heinz et al. 2011; Aksënova et al. 2016; McMullin 2016; Graf 2019)
 - 2 Evolutionary trajectory from Merge to Move (Graf 2018)
 - 3 should help with learnability (remains to be shown)
- ▶ **New answer** (empirical)
 - ▶ If we vary the parameters available in TSL, we get well-attested movement phenomena.
 - ▶ TSL carves out a **whole space of movement phenomena**.

A 2-by-2 typology of tier nodes

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A 2-by-2 typology of tier nodes

Feature checking as a constraint on each f-tier

- 1 Every **Positive** has exactly 1 **Negative** among its daughters.
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A 2-by-2 typology of tier nodes

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	Positive on f-tier	Negative on f-tier
f^+	True	False
f^-	False	True

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f^-	False	True
islands	False	False
	True	True

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f^+	True	False
f^-	False	True
islands	False	False
wh-agreement	True	True

Islands as tier blockers (neither positive nor negative)

- (1) * What did John complain about the fact that Mary brought $\langle \text{what} \rangle$ to the party?

did :: $T^+ \text{wh}^+ C^-$

|

ε :: $V^+ \text{nom}^+ T^-$

|

complain :: $P^+ D^+ V^-$

John :: $D^- \{ \text{nom}^- \}$ about :: $D^+ P^-$

|

the :: $N^+ D^-$

|

fact :: $C^+ N^-$

|

that :: $T^+ C^-$

|

ε :: $V^+ \text{nom}^+ T^-$

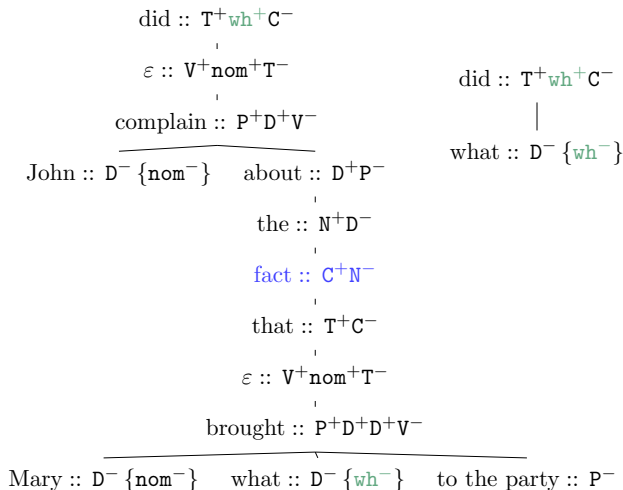
|

brought :: $P^+ D^+ D^+ V^-$

Mary :: $D^- \{ \text{nom}^- \}$ what :: $D^- \{ \text{wh}^- \}$ to the party :: P^-

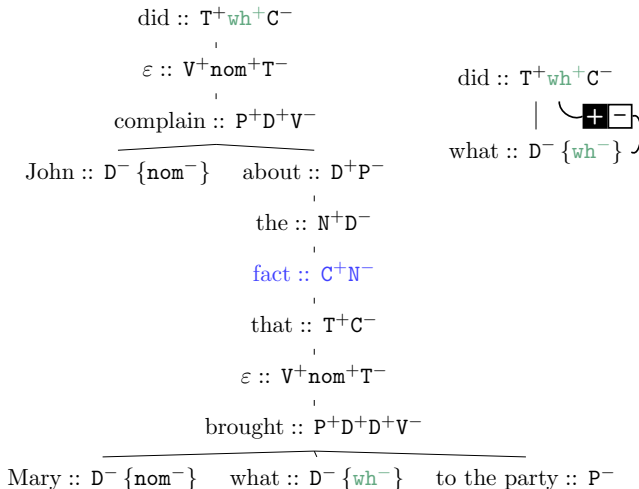
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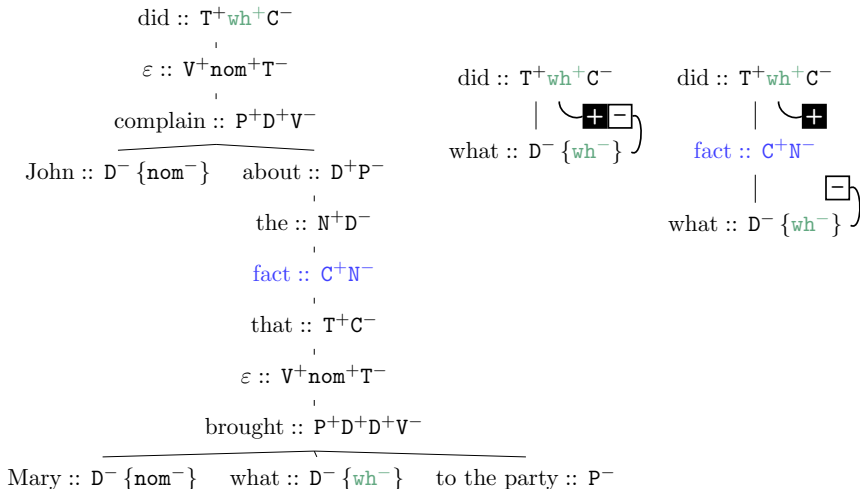
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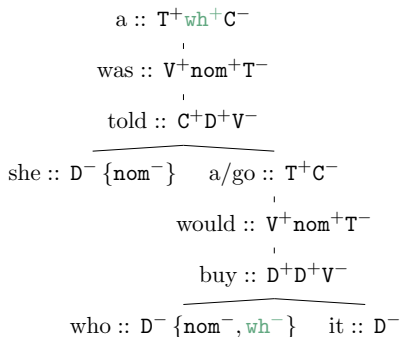
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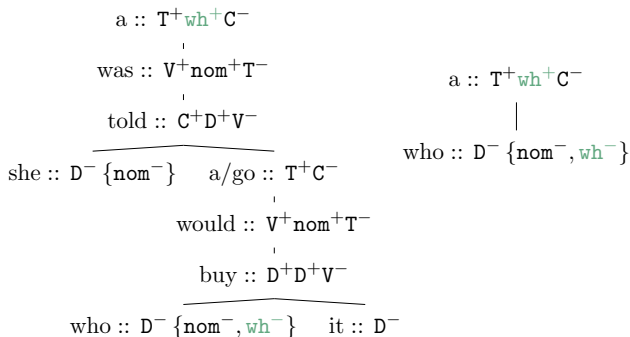
Wh-agreement via tier conduits (positive & negative)

- (2) Cé **a**/*go dúradh léithi **a**/*go cheannódh é?
 who C-wh/C was-said with-her C-wh/C would-buy it
 'Who was she told would buy it?'
 (Irish, McCloskey 2001:p.94)



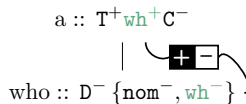
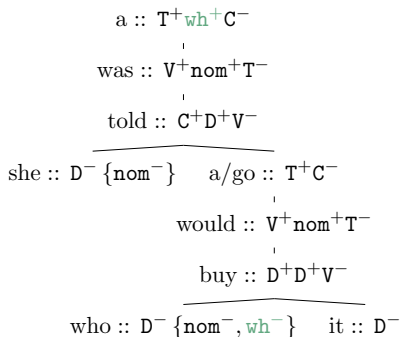
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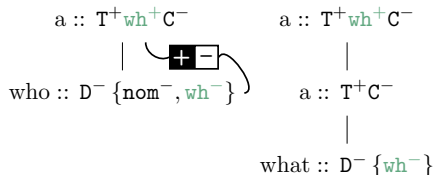
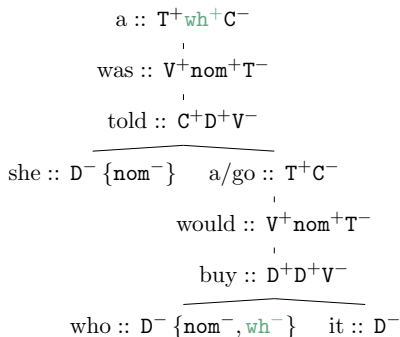
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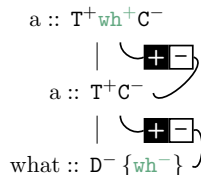
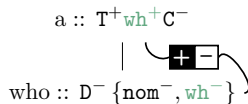
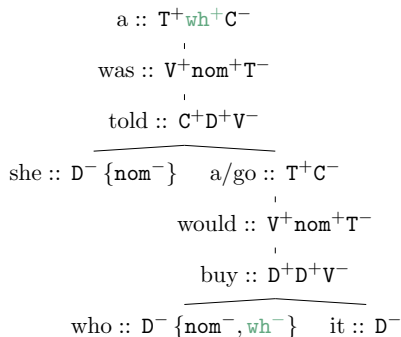
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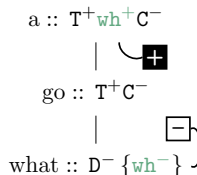
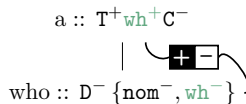
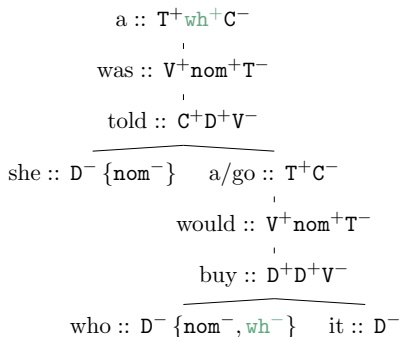
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Conclusion

- ▶ Movement recently analyzed as local dependency over tiers (Graf 2018; Graf and Kostyszyn 2021)
- ▶ TSL predicts existence of attested movement phenomena:
 - 1 multiple wh-movement (Graf and Kostyszyn 2021),
 - 2 optional movement,
 - 3 islands (adjuncts, complex NPs, relative clauses, ...)
 - 4 wh-agreement
 - 5 *that*-trace effect and its exceptions
 - 6 anti-*that*-trace effect
 - 7 complementizer alternations in Lio (work in progress)
 - 8 German wh-copying (work in progress)

Take-Home Message

The computational nature of movement explains (a large part of) the typological space of movement phenomena.

Acknowledgments

This work was supported by the National Science Foundation under Grant No. BCS-1845344.



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