On another topic, how do acquisition orders vary?

The left periphery and topicalisation in bilinguals

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1. Introduction

- Fundamental question in linguistic theory: language **universals** and language **variation**.
  - How much of this universality is domain-specific and encoded in Universal Grammar?
    Rich Universal Base Hypothesis, Poor Universal Base Hypothesis, No Universal Base Hypothesis (McFadden et al., 2021)

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- In language acquisition: developmental **universals** and developmental **variation**.
  - How much of syntactic development hinges on UG-given primitives and what determines their development?
  - Strongest 'biologisation' hypothesis – **Maturation**: UG *biologises* not just universal structural primitives, but also *when* they will appear.

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Biologisation Issue

How much of syntactic development should be biologised as innate and domain-specific?

- How do children acquire functional categories, and, specifically, the left periphery?
- **Most maturational work:** the CP matures *universally* late (i.a., Radford, 1990; Rizzi, 1993; Friedmann et al., 2021).
- **Continuity**: access to (all/most) functional structure from the start (Boser et al., 1992; Hyams, 1992; Poeppel and Wexler, 1993; Westergaard, 2009).

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Emphasis on **developmental universals** → (parts of) learning paths are crosslinguistically universal, because UG specifies so

- **And developmental variation?** How do learning paths vary crosslinguistically?
  - Arguably has received less attention.
  - Though cf. Demuth (1989), Choi and Gopnik (1995), Paradis and Genesee (1996, 1997), Serratrice (1996), etc, for some data from understudied languages and bilinguals.

Emerging tension: we need a crosslinguistically applicable model of syntactic development that is *constrained* enough to account for developmental universals, but *flexible* enough to capture developmental (language-specific) variation

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↪ ***Crosslinguistic* comparison of child data (monolingual/bilingual) key here.**

- **Today**: approaching the Biologisation Issue in two ways:
  - The development of the left-periphery in two bilinguals
  - The crosslinguistic acquisition of topicalisation strategies.
- Developmental **universals** *vs* developmental **variation**.

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↪ **Lots of theorisation about developmental universals, less so about variation.**

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→ **CP consistently** emerges **early** (in some form) across all languages and children. Good candidate for a ***developmental universal***.

→ **'Late' topics** are merely a ***language-specific*** effect. It is not a *universal*, so cannot be *biologised*.

→ **Variation in the acquisition of topics** crosslinguistically follows from the **L1 parametric complexity** of each topicalisation strategy and the overall system.

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  - The crosslinguistic acquisition of topicalisation strategies.
- Developmental **universals** *vs* developmental **variation**.

→ A comprehensive account of the patterns has to reduce the role of UG, but this does not suffice.

→ We need an explicit learnability theory that can predict developmental *variation* as much as developmental *universals* (the analytical focus in current literature).

Neo-emergentist approaches to acquisition meet these desiderata.

2. Theoretical background

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2.1. Approaches to the acquisition of functional categories

- **Maturation** of functional categories
  - (Arguably) **dominant** approach so far: **bottom-up** approach.
  - The top of the tree (≈ **CP**) acquired **last** (Radford, 1990; Rizzi, 1993; Friedmann et al., 2021; Diercks et al., 2023).
  - Growing Trees Hypothesis (most recent, left periphery-centred proposal): two-stage development of LP.

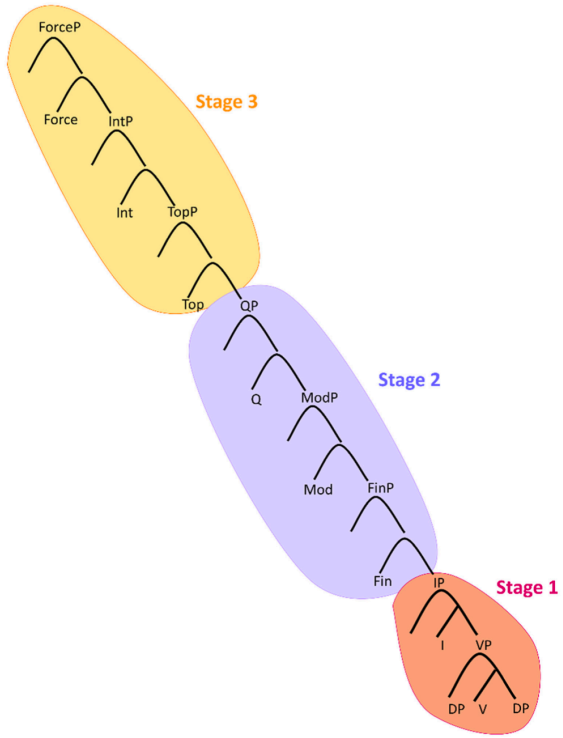

Figure 1: Stages in the Growing Trees Hypothesis (Friedmann et al., 2021, p. 12)

- **Maturation** of functional categories
  - More recently revived idea: **inward** approach. **CP** emerges **early**! (i.a., Galasso, 2003; Tsimpli, 2005; Heim and Wiltschko, 2021).
  - Galasso (2003)'s 'Empty Middle' approach: CP>∅>VP to CP>IP>VP.
  - Heim and Wiltschko (2021)'s Inward Growing Spine: spine matures inwardly.

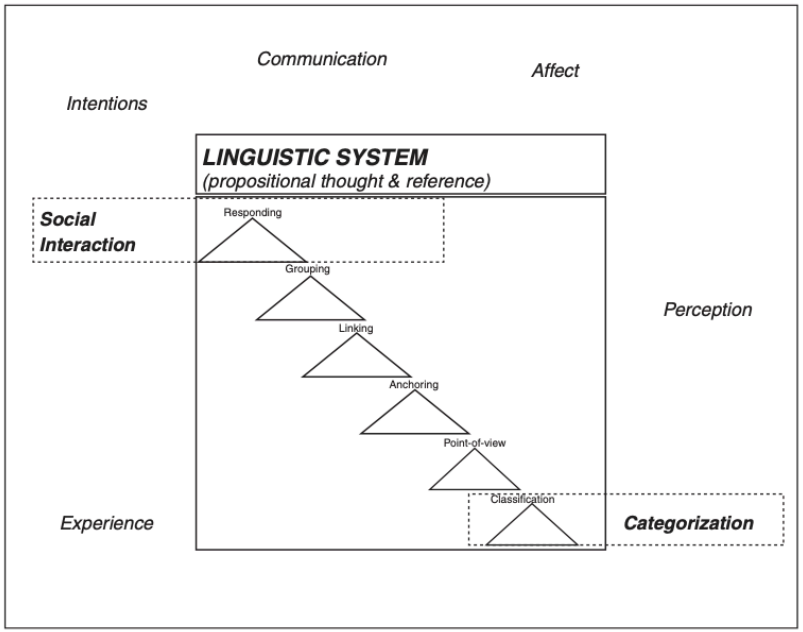

Figure 2: Bridge Model (Hinzen and Wiltschko, 2023)

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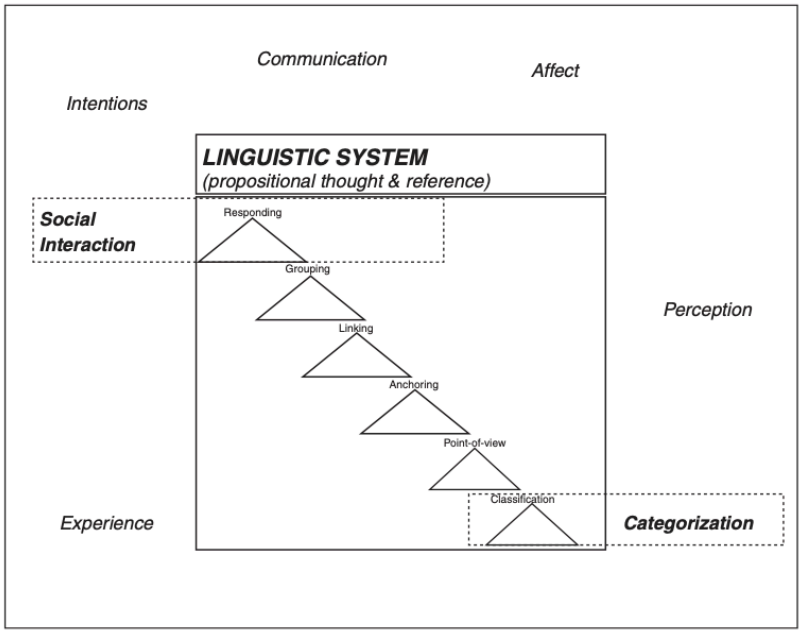

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Emphasis on universality: hard-coded universal acquisition orderings

- **Continuity**: children's initial state ≈ adult's functional inventory.
  - Of various strengths:
  - Strong Continuity (i.a., Poeppel and Wexler, 1993; Boser et al., 1992; Hyams, 1992)
  - Weak Continuity (Underspecification of features, Lexical Learning, etc.) (i.a., Hyams, 1996; Clahsen et al., 1994).
  - Westergaard (2009)'s micro-cues approach: sensitivity to cartographic structures early on.

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Emphasis on universality: functional structure universally available from the start[1]

[1] Possible underspecification of features notwithstanding.

What about developmental variation?

- Emphasis on **universals** (their predictive aim), but some space for developmental **variation** in both.
- **How do we predict** where **crosslinguistic variation** in acquisition orderings will arise?

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- **How do we predict** where **crosslinguistic variation** in acquisition orderings will arise?
  - No explicit proposals for possible 'corners' of variation in Friedmann et al. (2021) and precedents.
  - Underspecification of features: which features are more/less likely to be underspecified?
  - Lexical Learning: which structures/lexical items have to be learned before we can consider CP acquired?
  - Continuity: complex task remains acquiring an L1-specific grammar (Lust, 1999, 2012), how does the child do it?

→ **Two-factors-centred approaches** (UG and input): No explicit theory about which general cognitive strategies the child harnesses in the task of learning an L1-specific and UG-guided grammar.

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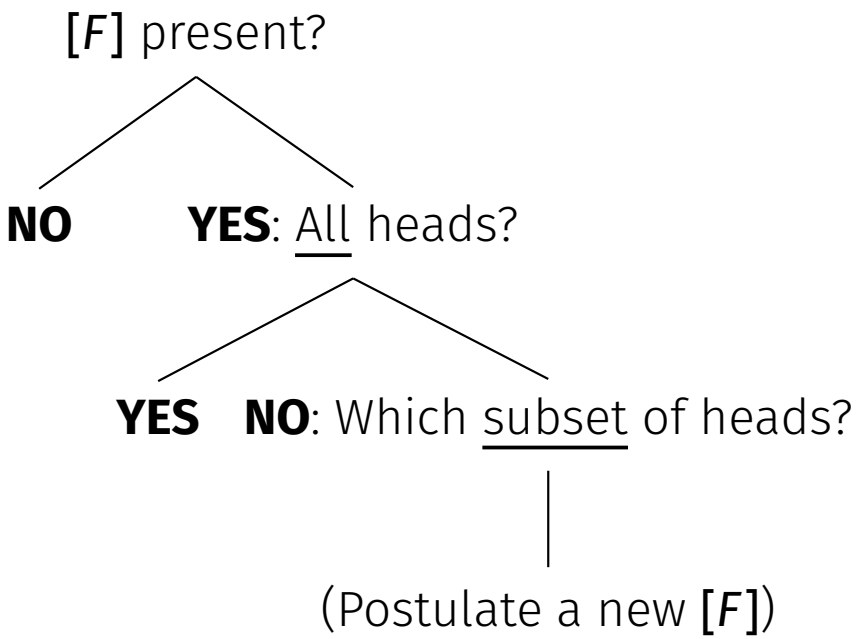
→ These approaches leave room for some variation in acquisition, **but do not theorise it**.

- **Neo-emergentism** (Biberauer, 2011, *et seq.*; Biberauer and Roberts, 2015)
  - *Emergentist generative approach*: **minimal UG**, no innate categories.
  - Development accounted for by the interaction of the **three factors** (Chomsky, 2005; Biberauer, 2019) → UG, intake and principles of data analysis/general cognition (e.g., Maximise Minimal Means).
- Maximise Minimal Means (Biberauer, 2019), one general-cognitive bias, two (of several) language-specific manifestations.
  1. **Feature Economy** (FE; generalised from Roberts and Roussou, 2003)
     Postulate as few **[*F*]**s as possible to account for the PLD.
  2. **Input Generalisation** (IG; adapted from Roberts, 2021; termed *Feature* Generalisation in Biberauer, 2020)
     Maximise available **[*F*]**s.

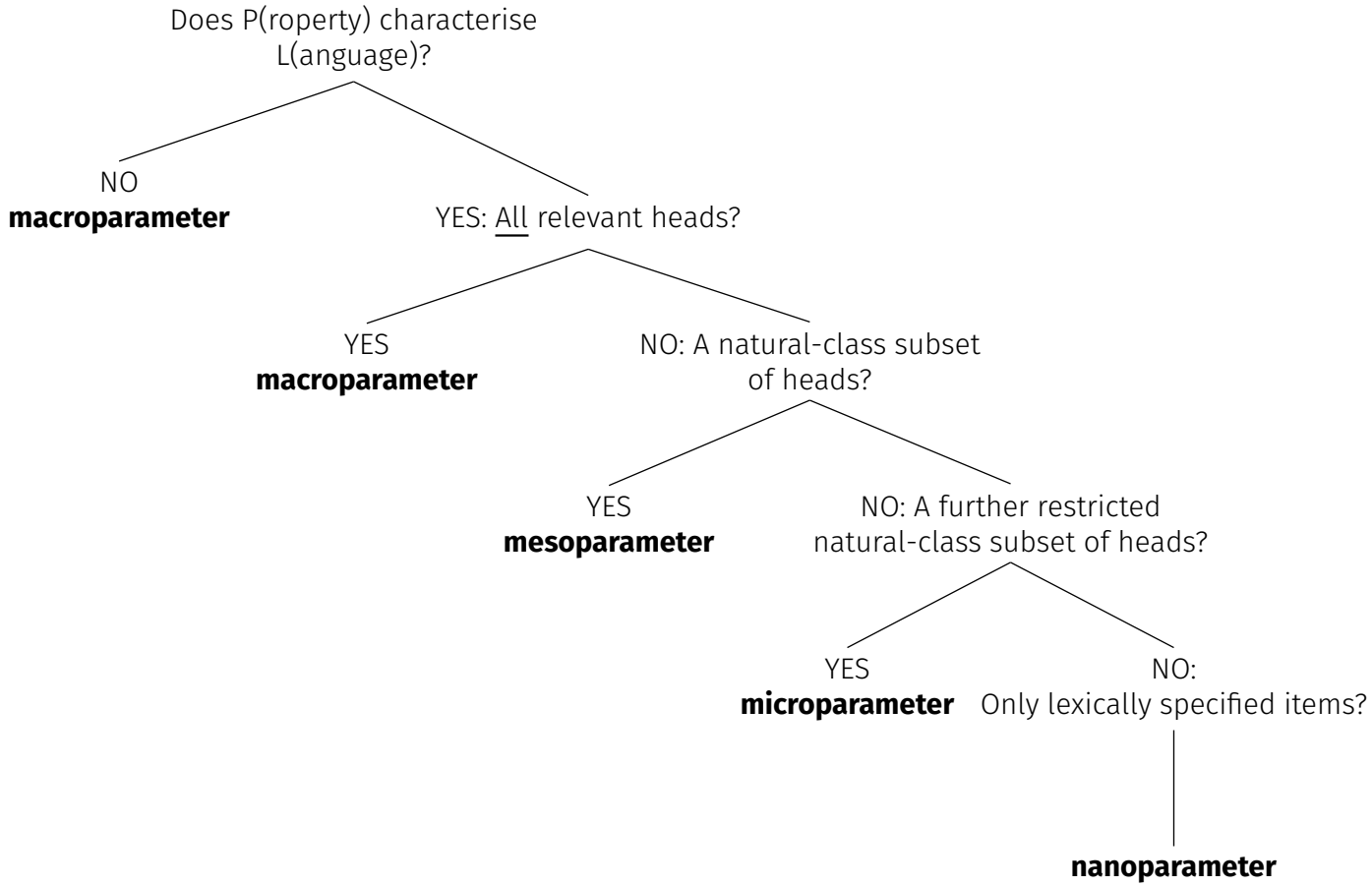
- **Minimax nature** → be conservative when positing **[*F*]**s, but liberal in generalising already-existing ones.

(1) The NO>ALL>SOME learning path



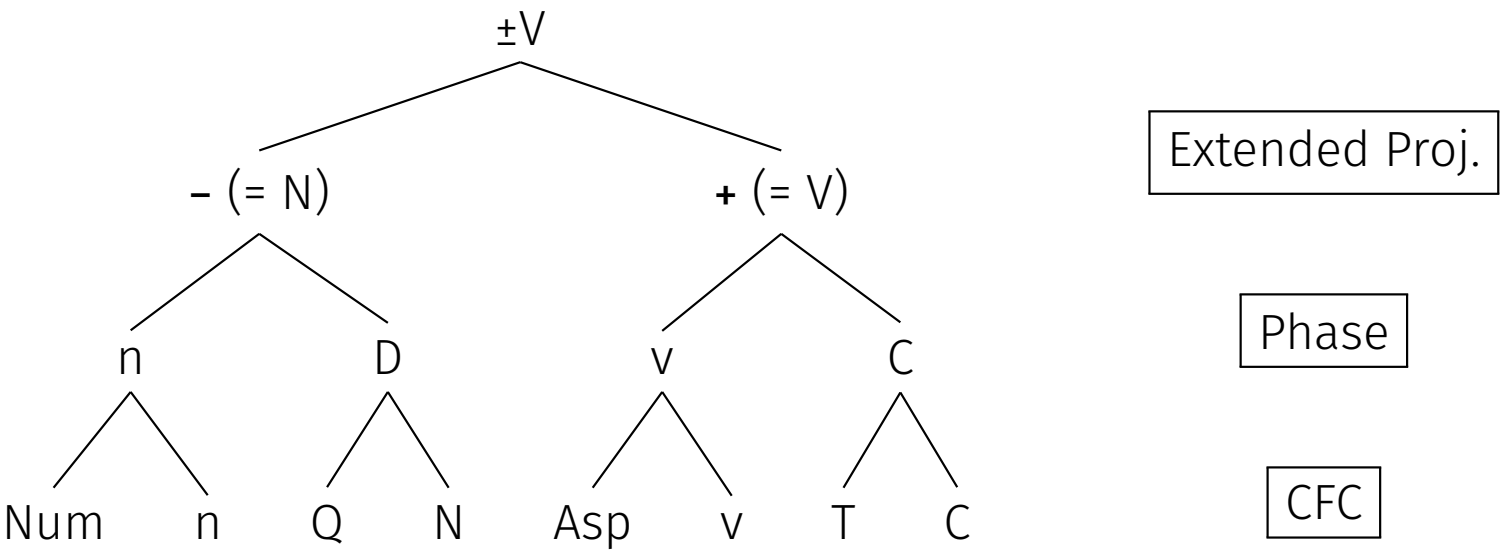
- MMM and NO>ALL>SOME then make predictions about *formal feature postulation* that speak to two key concerns in theories of grammar construction (Biberauer and Roberts, 2015):
  - **'Parameter setting'** (following the Borer-Chomsky Conjecture)
  - **Emergence of functional categories**
- These two require separate explanations in continuity/maturation frameworks → unified in neo-emergentism, both outcomes of MMM- and [*F*]-driven learning.

(2) Schematisation of emergent parameter hierarchies



Later, 'microparametric' knowledge builds on earlier, more 'macroparametric' structure

(3) **Extended Projection** (V) > **phase** (C, v) > **Core Functional Category** or **CFC** (C, T, v) > "**cartographic field**" (e.g. Tense, Mood, Aspect, Topic, Focus) > **semantically distinct head** (e.g., Cinque, 1999; Frascarelli and Hinterhölzl, 2007).



Later, 'microparametric' knowledge builds on earlier, more 'macroparametric' structure

- This combination of assumptions gives us an explicit theory of *both* developmental **universals** and **variation**:
  - **Where we expect (some) universality**: Bias towards *featurally simpler systems* → 'coarser-grained' categories and more general parametric settings.
    - ↪ Early CP, early 'macroparametric' distinctions.
  - **Where we expect variation**: MMM-driven system and sensitive to initial conditions → *L1-specific developmental variation* correlating with the *parametric form or 'size'* of a given structure/operation in the relevant L1.
    - ↪ For structure α, if α has a **lower description length** in Language A compared to Language B, children acquiring Language A will acquire it **earlier**, *all other things equal* (Kolmogorov complexity).

Predictions for development of left periphery

- **Bottom up (Growing Trees)**:
  - Late CP (two-stage): earlier wh-questions, but very late maturation of TopicP-ForceP.
  - 🤔 Variation?
- **Inward maturation**:
  - Early CP
  - 🤔 Variation?
- **Continuity**:
  - Early CP
  - 🤔 Variation? (Lexical Learning? Underspecification?)
- **Neo-emergentism (Biberauer and Roberts, 2015)**:
  - Early CP.
  - Developmental variation as a function of Kolmogorov complexity.

2. Theoretical background

2.2. Topics crosslinguistically and their formal complexity

- V2 system: movement of V-to-C and of an XP (the topic) to a specifier position in the CP.

(4) a. German
Morgen reise ich
tomrrow travel.1SG I
'Tomorrow I'm travelling.'

b. Ich will Kola trinken
I want.1SG Cola drink.INF
'I want to drink coke.'

c. Dutch
Geen kaas lust ik
no cheese I desire.1SG
'Cheese, I don't like (it).'

d. Nu eet ik een boterham
now eat.1SG I a sandwich
'Now I eat a sandwich.'

- This Ā-movement treated, like English topicalisation (Haegeman, 2012), as ***operator movement*** (Koster, 1978; Haegeman, 1996) → it **exhibits prototypical Ā-properties**. These are shared with focalisation/wh-movement.

Table 1: Ā- vs. A-movement (van Urk, 2015, 23)

A-properties	**Ā-properties**
Local, restricted to nominals	Long-distance, not restricted to nominals
No reconstruction for principle C	Reconstruction for principle C
No Weak Cross-over, new antecedents for anaphors	Weak Cross-over, no new antecedents for anaphors
No parasitic gap licensing	Parasitic gap licensing

(5) a. *German, No anaphoric binding*
*Den Studenten$_i$ hat [der Professor von sich$_i$] unterstützt.
the student-ACC has the professor.NOM of himself supported
Int. 'The professor of himself supported the student.'

b. *Sensitivity to locality constraints*
*Den Studenten$_i$ hat Hans gefragt, [wer t$_i$ gesehen hat].
the student-ACC has Hans asked who seen has
Int. 'The students$_i$ asked Han who had seen them$_i$.'

c. *Obligatory reconstruction for Principle C*
[Ein Auto für sich$_i$ allein] wünscht sich jeder achtzehnjährige
[a car for himself-ACC] wants every 18-year-old
Junge$_i$
boy
'Every 18 year old boy wants a car for himself.'

d. *Parasitic gap licensing*
Den Patienten$_i$ hat der Arzt [ohne e_i anzuschauen] t_i untersucht.
the patient-ACC has the doctor without look-at examined
'The doctor has examined the patient without looking at him.'

(Grewendorf, 2005, 36)

- Topicalisation in Italian and Spanish involves primarily Clitic Left Dislocation (CLLD)[2].

(6) *Italian*, CLLD
Questa la compro io
this CL.DO= buy.1SG I
'This one I'm buying.'

(7) *Spanish*, CLLD
I **a** **mí** me darás un regalo?
and to me CL.IO= give.FUT.2SG a present
'And will you give ME a present?'

[2] Overt subjects are also often assumed to be topical (Alexiadou and Anagnostopoulou, 1998). These are orthogonal in this talk.

- Unlike Germanic topicalisation, CLLD does not display most properties of operator movement. It **presents both A- and Ā-properties** → featurally distinct kind of movement, namely ***non-operator, non-quantificational movement*** (i.a., Cinque, 1990; Haegeman, 2012).

(8)

a. *Italian, Lack of Weak-Crossover effects*
Gianni$_i$, sua madre lo ha sempre apprezzato t_i
Gianni his mother him have.3SG always appreciate.PTCP
'Gianni, his mother has always appreciated him.'

b. *Italian, Inability to license parasitic gaps*
*Gianni l'ho cercato per mesi [sensa trovare].
Gianni CL.DO=AUX.HAVE.1SG look.for.PTCP for months without find.INF
Gianni, I have been looking for him for months without finding him.'

c. *Spanish, Insensitivity to weak islands*
Los libros me pregunto [cuándo los leeremos]
the books CL.IO= wonder.1SG when CL.DO= read.SUBJ.FUT.1PL
'The books, I wonder when we will read them.'

d. *Spanish, Sensitivity to strong islands*
*A Carlos$_i$, Pedro conoce [a la persona [que lo visitó t_i]].
DOM Carlos Pedro knows DOM the person that CL.DO= visit.PTCP
'*To Carlos, Pedro knows the person who visited him.'

(Cruschina, 2011, 98-99)

- In a nutshell, **topicalisation** manifests as **two different kinds of movement** in Germanic *vs* Romance.
  - In Germanic: operator movement with all of topics, foci, wh-Qs.
  - In Romance: non-operator movement for CLLD; operator movement for [FOC] and [WH]

↪ In Romance, both co-existing movement strategies **must be featurally distinguished by the child**.

↪ This explains why **Topics can co-occur with Wh-elements** in Romance, but not in German/English.

3. Two corpus studies

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3.1. Methodology

- Longitudinal analysis of 2 typically-developing bilinguals in CHILDES and PhonBank, acquiring typologically distinct languages.

Table 2: Children studied and summary information (Hulk, 1997; Lleó et al., 2003)

Corpus	Child	Language	Files analysed	Age range	MLUw range
Amsterdam	Heleen	Italian	23	1;09-4;06	1.63-5.38
		Dutch	29	1;09-4;06	1.67-5.59
PhonBLA	Simon	Spanish	42	1;02-5;10	1.0-5.0
		German	39	1;01-5;10	1.0-4.26

- Two *strongly balanced* bilinguals, with a 0.03 and 0.04 MLUw-difference in their two languages (following the metrics in Hager, 2014; Hager and Müller, 2015)

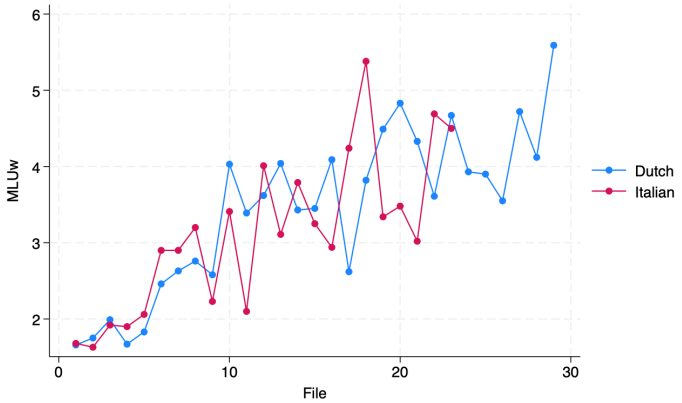

Figure 3: Comparison of the MLUw development in Heleen's Italian and Dutch

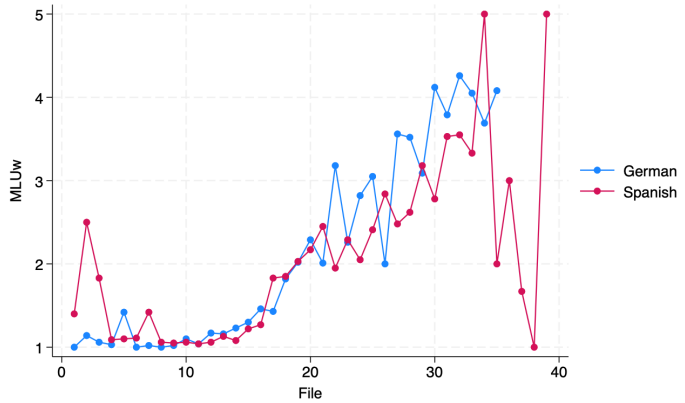

Figure 4: Comparison of the MLUw development in Simon's Spanish and German

- **Study 1**: the acquisition of the left periphery, esp. relative acquisition orders of CP-structures.
  - CP diagnostics:
    1. Wh-questions
    2. Yes/no questions (Germanic only)
    3. V-to-C movement (Germanic only)
    4. Topics/Foci
    5. Illocutionary (main clause) complementisers (Romance only)
    6. Finite embedding

3. Two corpus studies

3.2. Study 1: Results

Table 3: Production of CP-structures in Heleen's Italian

Age	MLU	Wh-Q	Top/Foc	Illoc	Embed
1;09.09	1.68				
1;09.28	1.63	✓			
2;00.01	1.92	✓			
2;00.23	1.9				
2;01.21	2.06	✓			
2;02.17	2.9	✓			
2;04.14	2.9	✓	✓		
2;05.00	3.2	✓	✓		✓
2;05.07	2.23	✓			
2;07.08	3.41	✓	✓		✓
2;09.15	2.1	✓			✓
2;11.03	4.01		✓	✓	✓
3;01.00	3.11	✓			✓
3;01.15	3.79	✓	✓		
3;02.10	3.25	✓	✓		✓
3;03.08	2.94	✓	✓		✓
3;03.29	4.24	✓	✓		✓
3;06.02	5.38		✓	✓	✓
4;00.27	3.34	✓	✓	✓	✓
4;01.25	3.48	✓	✓		✓
4;04.00	3.02	✓	✓	✓	✓
4;05.01	4.69	✓	✓	✓	✓
4;06.00	4.5	✓	✓	✓	✓

Table 4: Production of CP-structures in Simon's Spanish (shortened)

Age	MLU	Wh-Q	Top/Foc	Illoc	Embed
1;08.08	1.04				
1;08.22	1.06				
1;09.09	1.68				
1;09.28	1.63				
1;10.17	1.13				
1;10.22	1.4				
1;11.09	1.08	✓			
1;11.26	1.22				
2;00.10	1.27				
2;03.04	1.83				
2;03.17	1.85				
2;04.01	2.03				
2;05.24	2.95			✓	
2;05.26	2.17	✓		✓	
2;06.09	2.45	✓			
2;06.23	1.95	✓		✓	
2;07.09	2.29				
2;07.23	2.05				
2:08.06	2.41		✓		
2;08.20	2.84	✓	✓	✓	
2;10.02	2.48	✓	✓		
3;00.10	2.62			✓	
3;00.24	3.18	✓			✓
3;01.24	2.78	✓	✓	✓	✓
3;03.12	3.53	✓	✓		✓
3;04.16	3.55	✓		✓	✓
3;05.25	3.33	✓	✓		✓
4;01.03	5.0				✓
4;03.04	2.0				
4;08.14	3.0				

👉 Early emergence of (some) CP structures

- **Very early structures**: wh-questions and illocutionary complementisers.
- First structures produced: **wh-questions**, productively from 1;09 in Heleen and around 2;05 for Simon (earlier files contain only a plausibly rote-learned form *Dondé esta?* 'Where is it?').

(9) a. Italian, Heleen (1;09.28, MLUw 1.63)
Ecco Maria cosa hai fatto?
here Maria what AUX.HAVE.2SG do.PTCP
'Here (you have it), Maria, what have you done?'

b. Heleen (2;01.21, MLUw 2.06)
Dov' è l'attro?
where be.3SG the-other
'Where's the other one?'

c. Heleen (2;02.17, MLUw 2.9)
Come si chiama tuo gatto?
how CL.REFL= be.called.3SG your cat
'What your cat's name?'

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- First structures produced: **wh-questions**, productively from 1;09 in Heleen and around 2;05 for Simon.

(10) a. Simon (2;05.26, MLUw 2.17)
Qué es esto?
what be.3SG this
'What is this?'

b. Simon (2;05.26, MLUw 2.17)
Qué hay aquí?
what there.be.3SG here
'What's here'

c. Simon (2;05.26, MLUw 2.17)
Dónde está mi locomotora?
where be.3SG my train
'Where's my train?'

👉 Early emergence of (some) CP structures

- At this same point (2;05), we also observe **illocutionary complementisers** in Simon → aligns with (preliminary) generalisation in Bosch (2023b).

(11) a. Spanish, Simon (2;05.24, MLUw 2.95)
Que llueve
that.EXCL rain.3SG
'It's raining!'

b. Simon (2;05.24, MLUw 2.95)
Que sube, sube, sube
that.EXCL go.up.3SG go.up.3SG go.up.3SG
'It's going up, up and up!'

c. Simon (2;05.26, MLUw 2.17)
Que se ha acabado, era de noche
that.CONJ CL.REFL= AUX.HAVE.3SG finish.PTCP be.PST.3SG of night
'It has finished, it was late at night.'

Late topics

- **Ambiguous** left-dislocations, possibly **focalisations**, start emerging for Simon before clear topics (Heleen produces topics/foci later).

(12) a. Spanish, Simon (2;08.06, MLUw 2.41)
Y este pinta tú.
and this paint.IMP you
'This one, paint it.'

b. Simon (2;08.06, MLUw 2.41)
Este 0he pintado rosa.
this AUX.HAVE.1SG paint.PTCP pink
'This one, I (have) painted it pink.'

c. Simon (2;08.20, MLUw 2.84)
De navidad quiero.
of Christmas want.1SG
'I want some OF CHRISTMAS.'

👉 Late topics

- **Unambiguous topics**, in the form of **CLLD**, emerge systematically **late**: 2;07 for Heleen and 3;03 for Simon.

(13) a. Italian, Heleen (2;07.08, MLUw 3.41)
A me mi piace questo qua.
to me CL.IO= like.3SG this here
'I like this one here.'

b. Heleen (2;11.03, MLUw 4.01)
Questo lo devi portare.
this CL.DO= must.2SG bring.INF
'This one, you have to bring it.'

c. Spanish, Simon (3;03.12, MLUw 3.53)
Eso no lo sé
this not CL.DO= know.1SG
'This one, I don't know it.'

- Other indicators that CLLD is late: it emerges (soon) after subordination (2;05, Heleen; 3;00, Simon) and other cases of unambiguous topics (Top > Wh structures; 2;05, Heleen, and 3;05, Simon).

Table 5: Emergence of CP-structures in their Romance languages and all quantitative data obtained

	Wh-Q	**Top/Foc**	**Illoc**	**Embed**	
Heleen	1;09.28	2;05.00	2;11.03	2;05.00	**Emergence**
Simon	2;05.24	2:08.06	2;05.24	3;00.10	
Heleen	102 (55)	37	8	133	**Quantitative data**
Simon	30 (18)	10	19	14	

Table 6: Relative of emergence of diagnostics studied

Child	**Order of emergence**
Heleen (It.)	Wh-Q > Top/Foc/Embed > CLLD > Illoc
Simon (Sp.)	Wh-Q > Illoc > Top/Foc > Embed > CLLD

Main generalisations

- **CP is early** in some form or another → early wh-questions, early illocutionary complementisers, some early left-dislocations.
- **Topics are late** → CLLD emphatically late relative to all structures. A few non-CLLD left-dislocations are early.
- **Challenges for bottom-up maturation**. Only part of Growing Trees' hypotheses are borne out.

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- **Challenges for bottom-up maturation**. Only part of Growing Trees' hypotheses are borne out.

Next: Which patterns carry over to Germanic?

Table 7: Production of CP-structures in Heleen's Dutch

Age	MLU	V2	Wh	Y/N	Topic	Embed
1;09.11	1.66	✓	✓	✓		
1;10.07	1.75	✓	✓	✓		
1;11.00	1.99	✓	✓	✓	✓	
2;00.21	1.67	✓	✓	✓	✓	
2;01.20	1.83	✓	✓	✓	✓	
2;02.18	2.46	✓	✓	✓	✓	✓
2;03.23	2.63	✓	✓	✓	✓	✓
2;05.10	2.76	✓	✓	✓	✓	✓
2;06.07	2.58	✓	✓	✓	✓	✓
2;07.09	4.03	✓	✓	✓	✓	✓
2;08.20	3.39	✓	✓	✓	✓	✓
2;10.06	3.62	✓	✓	✓	✓	✓
2;11.04	4.04	✓	✓	✓	✓	✓
3;00.21	3.43	✓	✓	✓	✓	✓
3;01.14	3.45	✓	✓	✓	✓	
3;02.09	4.09	✓	✓	✓	✓	✓
3;02.29	2.62	✓	✓	✓	✓	
3;03.28	3.82	✓	✓	✓	✓	✓
3;05.02	4.49	✓	✓	✓	✓	✓
3;06.05	4.83	✓	✓	✓	✓	✓
3;07.02	4.33	✓	✓	✓	✓	✓
3;09.01	3.61	✓	✓	✓	✓	✓
3;09.22	4.67	✓	✓	✓	✓	✓
4;00.27	3.93	✓	✓	✓	✓	✓
4;01.25	3.9	✓	✓	✓	✓	✓
4;04.00	3.55	✓	✓	✓	✓	✓
4;05.02	4.72	✓	✓	✓	✓	✓
4;06.00	4.12	✓	✓	✓	✓	✓
4;06.01	5.59	✓	✓	✓	✓	✓

Table 8: Production of CP-structures in Simon's German (shortened)

Age	MLU	V2	Wh	Y/N	Topic	Embed
2;01.03	1.46					
2;02.11	1.43					
2;02.25	1.82					
2;03.11	2.02	✓	✓		✓	
2;03.25	2;29	✓		✓		
2;04.22	-					
2;06.04	2.01	✓			✓	
2;07.01	3.18	✓	✓	✓	✓	✓
2;08.15	2.26	✓		✓	✓	
2;09.17	2.82	✓	✓	✓	✓	
2;09.28	3.05	✓	✓	✓	✓	
2;11.18	2.0					
3;00.04	3.56	✓	✓	✓	✓	
3;00.18	3.26	✓	✓	✓	✓	
3;01.03	3.52	✓	✓	✓	✓	✓
3;02.01	3.09	✓	✓	✓	✓	✓
3;05.07	4.12	✓	✓	✓	✓	✓
3;06.25	3.79	✓	✓	✓	✓	✓
3;10.04	-					
4;01.16	4.26	✓	✓	✓	✓	✓
4;09.25	4.05	✓	✓	✓	✓	✓
5;03.17	3.69	✓	✓	✓	✓	✓
5;10.01	4.08	✓	✓	✓	✓	✓

☞ Early emergence of almost all CP structures

- Knowledge of the **V2 system** in Germanic: distributional distinction between finite *vs* non-finite verbs (1;09, Heleen; 2;02, Simon).

(14) a. Dutch, Heleen (1;09.11, MLUw 1.66)
Tomaat geven, papa mij.
tomato give.INF dad me
'Tomato give dad me.'

b. Heleen (1;10.07, MLUw 1.75)
En Heleen heeft blote
and Heleen have.3SG bare
voeten.
feet
'And Heleen has bare feet.'

c. Heleen (1;10.07, MLUw 1.75)
Kom eens met [?]
come.IMP once with
Heleen.
Heleen
'Come here with Heleen.'

(15) a. German, Simon (2;03.11, MLUw 2.02)
Karussell fahren.
carrousel drive.INF
'Ride (a) carrousel'

b. Simon (2;03.11, MLUw 2.02)
Kommt da
come.3SG there
Dampflokomotive.
steam.train
'There comes the steam train.'

c. Simon (2;03.11, MLUw 2.02)
Ich komme gleich wieder.
I come.3SG right again
'I will be right back.'

☞ Early emergence of almost all CP structures

- Almost simultaneously with V2: the **entire range of CP-structures emerges**, bar subordination. **Wh-questions**, **yes/no questions** and **topics**.

(16) a. Dutch, Heleen (1;09.11, MLUw 1.66)
Hoe bedoel je?
how mean.2SG you
'What do you mean?'

b. German, Simon (2;03.11, MLUw 2.02)
Wie heißt das Schiff ?
how be.called.3SG the boat
'How is the boat called?'

(17) a. Dutch, Heleen (1;10.07, MLUw 1.75)
Wil Lalla ook latte@s?
want.3SG Lalla also lattes
'Does Lalla also want lattes?'

b. German, Simon (2;03.25, MLUw 2.29)
Geht das?
go.3SG it
'Does it work?'

☞ Early emergence of almost all CP structures

- Almost simultaneously with V2: the **entire range of CP-structures emerges**, bar subordination. **Wh-questions**, **yes/no questions** and **topics**.

(18) a. Dutch, Heleen (1;11.00, MLUw 1.99)
Lamp wille niet pakken.
lamp want.1SG not grab.INF
'The lamp, (I) don't want to grab it.'

b. Heleen (2;01.20, MLUw 1.83)
Dan zegt [: zeg] ik au!
then say.3SG say.1SG I au
'Then I say au!'

(19) a. German, Simon (2;03.11, MLUw 2.63)
Da fahren Autos.
then drive.3PL cars
'There cars drive.'

b. Simon (2;03.11, MLUw 2.63)
Und da ist Alexander.
and there be.3SG Alexander
'And there is Alexander.'

Table 9: Emergence of CP-structures in their Germanic languages and quantitative data obtained

	V2	Wh-Q	Y/N-Q	Top/Foc	Embed	
Heleen	1;09.11	1;09.11	1;09.11	1;11.00	2;02.18	**Emergence**
Simon	2;02.11	2;03.11	2;03.25	2;03.11	3;01.03	
Heleen	✓	176 (91)	147	574	103	**Quantitative data**
Simon	✓	59 (35)	66	306	37	

Table 10: Relative of emergence of diagnostics studied

Child	Order of emergence
Heleen (Dutch)	V2/Wh-Q/YN-Q > Top > Embed
Simon (Ger.)	V2 > Wh-Q/YN-Q/Top > Embed

Main generalisations

- **CP is emphatically early** in some form or another → early V2, early wh-questions, early topics, early yes/no questions.
- **Topics are very early** → alongside other syntactically high structures (V-to-C, yes/no questions).
- **Significant challenges for bottom-up maturation**. Few if any of Growing Trees' hypotheses are born out.

Table 11: Emergence of all CP-structures for both children

	V2	Wh-Q	Y/N-Q	Top/Foc	CLLD	Illoc	Embed
Heleen Italian		1;09.28		2;05.00	2;07.08	2;11.03	2;05.00
Heleen Dutch	1;09.11	1;09.11	1;09.11	1;11.00			2;02.18
Simon Spanish		2;05.24		2:08.06	3;03.12	2;05.24	3;00.10
Simon German	2;02.11	2;03.11	2;03.25	2;03.11			3;01.03

Table 12: Relative of emergence of diagnostics studied

Child	Order of emergence
Heleen (It.)	Wh > Top/Foc/Embed > CLLD > Illoc
Heleen (Dutch)	V2/Wh-Q/YN-Q > Top > Embed
Simon (Sp.)	Wh-Q > Illoc > Top/Foc > Embed > CLLD
Simon (Ger.)	V2 > Wh-Q/YN-Q/Top > Embed

Table 13: Emergence of all CP-structures for both children

	V2	Wh-Q	Y/N-Q	Top/Foc	CLLD	Illoc	Embed
Heleen Italian		1;09.28		2;05.00	2;07.08	2;11.03	2;05.00
Heleen Dutch	1;09.11	1;09.11	1;09.11	1;11.00			2;02.18
Simon Spanish		1;11.09		2:08.06	3;03.12	2;05.24	3;00.10
Simon German	2;02.11	2;03.11	2;03.25	2;03.11			3;01.03

Table 14: Relative of emergence of diagnostics studied

Child	Order of emergence
Heleen (It.)	Wh > Top/Foc/Embed > CLLD > Illoc
Heleen (Dutch)	V2/Wh-Q/YN-Q > Top > Embed
Simon (Sp.)	Wh-Q > Illoc > Top/Foc > Embed > CLLD
Simon (Ger.)	V2 > Wh-Q/YN-Q/Top > Embed

Table 15: CP-structures produced by Heleen and Simon

	V2	Wh-Q	Y/N-Q	Top/Foc	Illoc	Embed
Heleen Italian		102 (55)		37	8	133
Heleen Dutch	✓	176 (91)	147	574		103
Simon Spanish		30 (18)		10	19	14
Simon German	✓	59 (35)	66	306		37

- **So far:** Two key results stand out from this bilingual data:
  - (i) **Shared crosslinguistic pathways**: CP is acquired early in some form, and in a way that is not contingent on structural height.
  - (ii) **Developmental variation**: Crosslinguistic orders of acquisition of left-peripheral structures are more flexible than often acknowledged.

- **So far:** Two key results stand out from this bilingual data:
  - (i) **Shared crosslinguistic pathways**: CP is acquired early in some form, and in a way that is not contingent on structural height.
  - (ii) **Developmental variation**: Crosslinguistic orders of acquisition of left-peripheral structures are more flexible than often acknowledged.
- Work (and talk) thus far → focus on (i), *developmentally universal* patterns.
- **Next up:** zooming in on (ii), *developmental variation*, by interrogating the development of topics, CLLD and clitics further.
  - What accounts for the discrepancy in acquisition timings in Germanic/Romance (and beyond)?

3. Two corpus studies

3.3. Study 2: Results

- Study 1 uncovers an **L1-specific discrepancy** in the acquisition of **topics**.

↪ **CLLD is not late because of clitics**

- Clitics *can* develop very early, and well before CLLD → clitic development cannot be the sole cause of late CLLD (see Marinis, 2000; Tsimpli, 2005; Babyonyshev and Marin, 2006, for other supporting data).
- Point strengthened by the fact that CLLD can emerge similarly late as other structures with (non-clitic-resumed) topics:

Table 16: Emergence of Foci, clitics, CLLD and Top > Wh structures

	Focalisation	**Reflexive clitics**	**Object clitics**	**CLLD**	**Top > Wh**
Heleen (It.)	2;05.00 file 8	1;09.09 file 1	2;00.01 file 3	2;07.08 file 10	2;05.00 file 8
Simon (Sp.)	2:08.06 file 27	1;11.09 file 15	2;03.17 file 19	3;03.12 file 33	3;00.10 file 30

4. Broad implications

- **Early** command of **CP-structures** → challenges any bottom-up maturational approach.
- **Early** **structurally high** elements → challenges bottom-up maturation, but especially *cartographic* versions.
- **L1-dependent** acquisition pathways in **topics** → inconsistent with Friedmann et al. (2021).

↪ Results most consistent with **shared insight** of continuity, inward maturation and neo-emergentism: CP is an early phenomenon[3].

[3] Though I will argue in what follows the empirical success of the former two is *partial*.

- Biberauer and Roberts (2015)'s **emergent categorial and parametric hierarchies**:
  - First, children access core '**macroparametric**' structural properties (see also work on 'Very Early Parameter-setting') → *basic* CP domain.
  - Once mastered, these enable ('unlock') more complex, increasingly '**micro-parametric**' refinements → more on this soon.
  - Poor UG → no maturation, no biological constraints on topics → structural height/acquisition mismatches unsurprising. Predicted to correlate with parametric complexity.

5. The emergence of topics crosslinguistically: a parametric and Kolmogorov complexity account

Early *vs* late topics: the role of parametric complexity

- Accounting for L1-specific discrepancies in the acquisition of topics.
- Maturation will not work, as seen earlier: CP is early, structurally high elements are early.
- Patterns also cannot be due to the development of clitics (Study 2), or pragmatic development – new/old information is available early on (e.g., Baker and Greenfield, 1988; Bambini and Torregrossa, 2010; Clark, 2014).

→ Delay at stake is *specific* to CLLD, not shared with Germanic topics.

- **Proposed account** → parametric, Kolmogorov complexity of topicalisation strategies.
  - Languages like English or Germanic: topic/focus/wh all handled by *operator movement*. Operator movement maximally generalised in V2 system (mesoparameter).
  - Languages like Italian: system makes an *additional featural distinction*; operator (focus/wh) and non-operator/non-quantificational movement.
  - **Two movement types**, **two different kinds of movement-triggering features** to be postulated by the child → higher parametric complexity in a system with CLLD, bias towards *minimum description length*.
- Why continuity/inward maturation won't suffice:
  - ↪ They are *insufficiently predictive*. Lack of an explicit theory of L1 grammar construction, so do not directly predict this developmental variation.

- Clear typological predictions: acquisition timings of topics crosslinguistically should correlate with parametric complexity.

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- **French** (de Cat, 2000, 2007a,b): absence of movement effects, inability to license parasitic gaps, lack of Principle C effects, and island non-sensitivity → **Adjunction** and/or **base-generation** involved (de Cat, 2007b; Wolfe, 2021, 2022).
  - ↪ Acquired **very early**, even before all other CP-structures.
  - ↪ Adjunction independently known to play important role early on (Lebeaux, 1988; de Villiers, 1991; Hoekstra and Jordens, 1996; Roeper, 1992; Biberauer, 2018)

(20) a. Max 2;0.14 (MLUw 1.83)
lui@d, ça va là
him it goes there
'That one goes there.'

b. Anne, 1;10.12 (MLUw 1.84)
Mimi, elle va toutoutou@s toutoutoutou@s
mimi she goes tootootoo tootootoo
'Mimi goes tootoot.' (Imitating a train)

c. Tom 2;1.11 (MLUw 2.28)
0 est pas une fille, isabelle
is not a girl Isabelle
'Isabelle's not a girl.'

(de Cat, 2002, 259, 260, 265)

- **European Portuguese**: CLLD productive, but peculiarly allows topicalisation without clitic resumption.
  - ↪ Non-CLLD topics acquired **very early** (Soares, 2003a,b, 2006).

(21) *European Portuguese*, Marta 1;8.18 (MLUw 1.5)

a. Marta: N(ã)o (es)tão dodot.
not are dodots
'Dodots are not here'
Marta: **Dodot** não há!
Dodot not have
'There are no dodots' (she is talking about a baby towel's empty box.)

b. Marta: Este!
this
'This one!' (she takes a part of a puzzle.)
Mother: ah # ainda não é daqui.
INTJ belong not this here
'This one does not belong here'
Marta: **Este** pôr.
this put
'I am going to put this one here'

(Soares, 2003a, 133)

- **European Portuguese**: CLLD productive, but peculiarly allows topicalisation without clitic resumption.
  - ↪ Non-CLLD topics acquired **very early** (Soares, 2003a,b, 2006).
- Most importantly, EP topics analysed as involving ***operator movement***: EP topicalisation licenses parasitic gaps, shows WCO effects, i.a. (Duarte, 1987; Raposo, 1997). Crucially, EP CLLD displays non-operator movement properties, like Romance CLLD.
- Formally simpler topics emerge earlier, finer-grained strategies later.

- Likewise for **Mandarin Chinese**, **Japanese** and **Korean**: topicalisation involves **operator movement** and/or **base-generation** (Hoji, 1990; Park, 1998; Kizu, 2005; Miyagawa, 2017b,a).
  - ↪ Null topics acquired very early on (Zhu and Gavarró, 2019), for Chinese, and Hirakawa (1993) and Kurumada (2009), for Japanese.
  - ↪ Topic markers possibly acquired early (~2;0) and after null subjects/topics in Japanese (Kurumada, 2009)[4].
  - ↪ Early topic and focus markers in Korean from 1;7 reported in Lee (2001).

(22) Xue'er (1;8; mean MLUw in group of 2.01)
%act: MOT is teaching how to pull the pen cup out.
Nai-nai ba.
grandma pull-out
'Grandma pull (it) out.'

- Acquisition of topicalisation gradual process, however: Hu et al. (2018) suggest that the derivation of Mandarin topics may be subject to successive refinements while children acquire topic markers.

[4] But cf. Hirakawa (1993) who reports slightly later development.

- **Catalan and Greek**: CLLD languages involve **non-operator movement**.
  - ↪ Acquired **late**, after foci/wh-questions (Bosch, 2023a; Marinis, 2000; Tsimpli, 2005).
- Laura and Gisela (Catalan; Bosch, 2023a)
  - First CP-structures emerge at 1;10 and 2;04, respectively.
  - CLLD at 2;08 for both.
- Alexia and Elli (Greek; Tsimpli, 2005) and Janna, Maria and Mairi (Marinis, 2000)
  - Wh-questions and focusing emerge earlier, at 1;11 and 1;9, respectively.
  - CLLD at 2;1 and 2;0. In Marinis (2000), CLLD emerges at 2;09 for Janna and Maria, and 2;03 for Mairi.
- No data for (non-CLLD) topicalisation in Greek, an operator-movement dependency (Alexopoulou and Kolliakou, 2002; Georgiou, 2023).

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- **Hebrew**: no formal distinction between focalisation and topicalisation.

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  - ↪ English-like operator-movement topics?
  - ▶ If so, we predict early topics, *contra* what is observed → acquired **late** in Friedmann et al. (2021).

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- **Hebrew**: no formal distinction between focalisation and topicalisation.
  - ↪ English-like operator-movement topics?
  - If so, we predict early topics, *contra* what is observed → acquired **late** in Friedmann et al. (2021).
- No – Borer (1995) and Shlonsky (2014): Hebrew topics share distributional properties with CLLD; no WCO effects and available in environments where they are ungrammatical in English (e.g., in imperatives, or interrogatives). Topic can co-occur with Wh.
- Plausibly, then, **non-operator movement** involved.

→ Hebrew fits our expectations.

- Now **two apparent counterexamples**: Hebrew and Brazilian Portuguese.
- **Brazilian Portuguese**: loss of clitics, generalised non-resumptive left-dislocation.

[5] NB: At 2;02 – whether this is 'late' is debatable. I set it aside, the child is plausibly an early-talker: wh-questions emerge well before at 1;07, and subordination already emerges at 2;4.

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  - ▶ But acquired **late** in Meira and Grolla (2023)![5]

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  - ↪ Another candidate for early topics?
  - But acquired **late** in Meira and Grolla (2023)![5]
- BP topics and its CP argued to display complex **interactions between A- and Ā-properties**:
  - Topics can co-occur with Wh, and do not present WCO effects (Modesto, 2015; Lacerda, 2020, 73-75)
  - Kobayashi (2020): topicalisation (among other CP-structures) displays 'interleaved movement' (an improper chain of A- and Ā-steps of movement).
  - Lohninger (2021): TopicP in BP with mixed [A/Ā] featural properties (see also Lohninger et al., 2022).
  - Dias (2024): canonical overt subjects in BP display mixed A/Ā behaviour, following Bošković's (2024) A/ĀP projection.

→ Brazilian Portuguese is (potentially) also predicted.

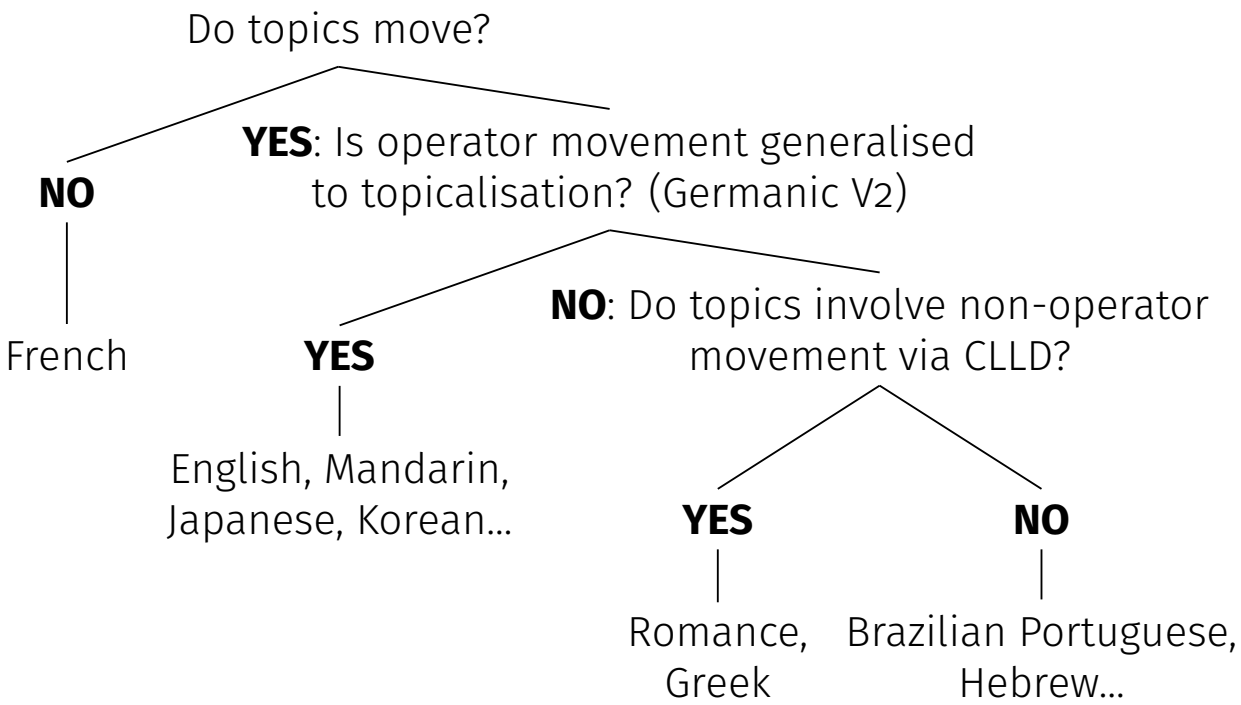
[5] NB: At 2;02 – whether this is 'late' is debatable. I set it aside, the child is plausibly an early-talker: wh-questions emerge well before at 1;07, and subordination already emerges at 2;4.

Table 17: Topicalisation strategies, their acquisition and their formal complexity

Language	Acquisition	Formal characteristics of topicalisation	Parametric complexity
French	Very early	Adjoined or base-generated	Macroparameter
Germanic V2	Very early	Generalised V2 diacritic	Mesoparameter
Mandarin, Japanese Korean	(Possibly) early	Operator movement or base-generation[6]	Mesoparameter
(Most of) Romance	Late	Non-operator movement with CLLD	Microparameter
Greek	Late	Non-operator movement with CLLD	Microparameter
Hebrew	Late	Non-operator movement without CLLD	Microparameter
Brazilian Portuguese	Late	Topic with [A/Ā] properties	Microparameter

[6] Depending on theoretical analysis.

(23) Parametric complexity in topicalisation structures considered



- Future extensions: **English** and **role of crosslinguistic influence**.
  - English left-dislocations **very restricted** in distribution (in Snider and Zaenen, 2006, 1% of their spoken data).
  - **Operator movement**, but **very infrequent** in PLD → should have acquisitional consequences.
  - Initial evidence for this → **late** acquisition of **English topics** in **monolinguals**, relative to French infants, but **earlier emergence** in **English/French bilinguals**, due to crosslinguisic transfer (Notley, 2004; Notley et al., 2007; Van der Linden and Sleeman, 2007).

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Overall: Timing of topics follows from their L1-specific complexity; it is not biologically pre-coded

6. Conclusion

- Inherent 'vulnerability' of (part of) the CP (Radford, 1990; Rizzi, 1993; Friedmann et al., 2021; Hulk and Müller, 2000)? I argued 'no' regarding its *syntax* and *representation*.

→ **Developmental universals *vs* variation**: Corners of 'flexibility' or 'developmental variation' as theoretically consequential.

- Inherent 'vulnerability' of (part of) the CP (Radford, 1990; Rizzi, 1993; Friedmann et al., 2021; Hulk and Müller, 2000)? I argued 'no' regarding its *syntax* and *representation*.

→ **Developmental universals *vs* variation**: Corners of 'flexibility' or 'developmental variation' as theoretically consequential.

- 'Late' topics *not* a developmental universal (*pace* Radford, 1990; Rizzi, 1997; Friedmann et al., 2021; Meira and Grolla, 2022) → clear case-study on sensitivity to initial conditions (path-dependent development).
- Early CP as a candidate for developmental universal → challenge for bottom-up approaches

- 👉 Neither maturation nor continuity, as they stand, meet a critical requirement: they must be *flexible* enough to accommodate crosslinguistic *variation* in acquisition orders, and *explicit* enough to *predict* it.
  - Explanatory potential for neo-emergentism in this domain → parametric/minimax-oriented categorial hierarchy. Extended the approach to development of topics.
- → **Comparative approach** to acquisition → multilingual data sheds significant light on the Biologisation Issue.

Thank you!

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Slides 💻→

7. Appendix

Age	MLUw	Wh-Q	Top/Foc	Illoc	Embed
1;09.09	1.68				
1;09.28	1.63	✓			
2;00.01	1.92	✓			
2;00.23	1.9				
2;01.21	2.06	✓			
2;02.17	2.9	✓			
2;04.14	2.9	✓	✓		
2;05.00	3.2	✓	✓		✓
2;05.07	2.23	✓			
2;07.08	3.41	✓	✓		✓
2;09.15	2.1	✓			✓
2;11.03	4.01		✓	✓	✓
3;01.00	3.11	✓			✓
3;01.15	3.79	✓	✓		
3;02.10	3.25	✓	✓		✓
3;03.08	2.94	✓	✓		✓
3;03.29	4.24	✓	✓		✓
3;06.02	5.38		✓	✓	✓
4;00.27	3.34	✓	✓	✓	✓
4;01.25	3.48	✓	✓		✓
4;04.00	3.02	✓	✓	✓	✓
4;05.01	4.69	✓	✓	✓	✓
4;06.00	4.5	✓	✓	✓	✓

Table 18: Production of CP-structures in Heleen's Italian

Age	MLUw	Wh-Q	Top/Foc	Illoc	Embed
1;02.09	-				
1;03.06	2.5				
1;03.19	1.83				
1;04.08	1.09				
1;05.04	1.1				
1;05.29	1.11				
1;06.12	1.42				
1;06.26	1.06				
1;07.11	1.05				
1;07.23	1.06				
1;08.08	1.04				
1;08.22	1.06				
1;09.09	1.68				
1;09.28	1.63				
1;10.17	1.13				
1;10.22	1.4				
1;11.09	1.08	✓			
1;11.26	1.22				
2;00.10	1.27				
2;03.04	1.83				
2;03.17	1.85				
2;04.01	2.03				
2;05.24	2.95			✓	
2;05.26	2.17	✓		✓	
2;06.09	2.45	✓			
2;06.23	1.95	✓		✓	
2;07.09	2.29				
2;07.23	2.05				
2:08.06	2.41		✓		
2;08.20	2.84	✓	✓	✓	
2;10.02	2.48	✓	✓		
3;00.10	2.62			✓	
3;00.24	3.18	✓			✓
3;01.24	2.78	✓	✓	✓	✓
3;03.12	3.53	✓	✓		✓
3;04.16	3.55	✓		✓	✓
3;05.25	3.33	✓	✓		✓
4;01.03	5.0				✓
4;03.04	2.0				
4;08.14	3.0				
5;00.12	1.67				
5;03.23	1.0				
5;06.07	5.0				

Table 19: Production of CP-structures in Simon's Spanish

Age	MLUw	V2	Wh	Y/N	Topic	Embed
1;09.11	1.66	✓	✓	✓		
1;10.07	1.75	✓	✓	✓		
1;11.00	1.99	✓	✓	✓	✓	
2;00.21	1.67	✓	✓	✓	✓	
2;01.20	1.83	✓	✓	✓	✓	
2;02.18	2.46	✓	✓	✓	✓	✓
2;03.23	2.63	✓	✓	✓	✓	✓
2;05.10	2.76	✓	✓	✓	✓	✓
2;06.07	2.58	✓	✓	✓	✓	✓
2;07.09	4.03	✓	✓	✓	✓	✓
2;08.20	3.39	✓	✓	✓	✓	✓
2;10.06	3.62	✓	✓	✓	✓	✓
2;11.04	4.04	✓	✓	✓	✓	✓
3;00.21	3.43	✓	✓	✓	✓	✓
3;01.14	3.45	✓	✓	✓	✓	
3;02.09	4.09	✓	✓	✓	✓	✓
3;02.29	2.62	✓	✓	✓	✓	
3;03.28	3.82	✓	✓	✓	✓	✓
3;05.02	4.49	✓	✓	✓	✓	✓
3;06.05	4.83	✓	✓	✓	✓	✓
3;07.02	4.33	✓	✓	✓	✓	✓
3;09.01	3.61	✓	✓	✓	✓	✓
3;09.22	4.67	✓	✓	✓	✓	✓
4;00.27	3.93	✓	✓	✓	✓	✓
4;01.25	3.9	✓	✓	✓	✓	✓
4;04.00	3.55	✓	✓	✓	✓	✓
4;05.02	4.72	✓	✓	✓	✓	✓
4;06.00	4.12	✓	✓	✓	✓	✓
4;06.01	5.59	✓	✓	✓	✓	✓

Table 20: Production of CP-structures in Heleen's Dutch

Age	MLUw	V2	Wh	Y/N	Topic	Embed
1;01.13	1.0					
1;03.18	1.14					
1;04.22	1.06					
1;05.27	1.03					
1;06.09	1.42					
1;06.23	1.0					
1;07.07	1.02					
1;07.21	1.0					
1;08.06	1.02					
1;08.20	1.1					
1;10.08	-					
1;10.22	1.04					
1;11.05	1.17					
1;11.19	1.16					
2;00.04	1.23					
2;00.17	1.3					
2;01.03	1.46					
2;02.11	1.43					
2;02.25	1.82					
2;03.11	2.02	✓	✓		✓	
2;03.25	2;29	✓		✓		
2;04.22	-					
2;06.04	2.01	✓			✓	
2;07.01	3.18	✓	✓	✓	✓	✓
2;08.15	2.26	✓		✓	✓	
2;09.17	2.82	✓	✓	✓	✓	
2;09.28	3.05	✓	✓	✓	✓	
2;11.18	2.0					
3;00.04	3.56	✓	✓	✓	✓	
3;00.18	3.26	✓	✓	✓	✓	
3;01.03	3.52	✓	✓	✓	✓	✓
3;02.01	3.09	✓	✓	✓	✓	✓
3;05.07	4.12	✓	✓	✓	✓	✓
3;06.25	3.79	✓	✓	✓	✓	✓
3;10.04	-					
4;01.16	4.26	✓	✓	✓	✓	✓
4;09.25	4.05	✓	✓	✓	✓	✓
5;03.17	3.69	✓	✓	✓	✓	✓
5;10.01	4.08	✓	✓	✓	✓	✓

Table 21: Production of CP-structures in Simon's German

- **Study 2**: Zooming in on topics and CLLD in particular → **development of clitics** and its **interlinking** (or lack thereof) with the production of **topics**.
  - Quantified CLLD and cliticisation structures in their Romance languages.
  - Analysis of both object clitics and clitics of reflexive/impersonal verbs.

(24) a. cl + V_{finite}

b. $V_{non\text{-}finite}$ + cl

c. *cl + $V_{non\text{-}finite}$

(25) a. Gianni lo mangia
Gianni CL.DO= eat.3SG
'Gianni eats it.'

b. Maria ha promesso di mangiarlo
Maria AUX.HAVE.3SG promise.PTCP of eat.INF=CL.DO
'Maria promised to eat it.'

c. *Maria ha promesso di lo mangiare
Maria AUX.HAVE.3SG promise.PTCP of CL.DO= eat.INF
'Maria promised to eat it.'

(Guasti, 1993, 13)

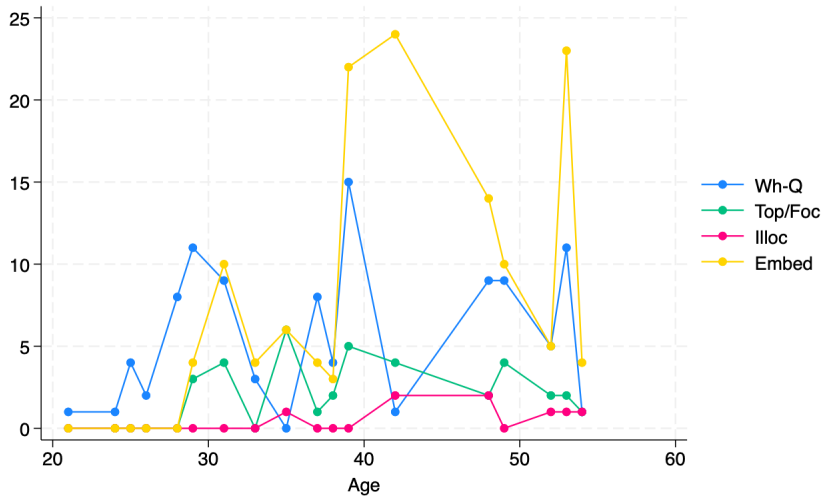

Figure 5: Development of CP-structures in Heleen's Italian

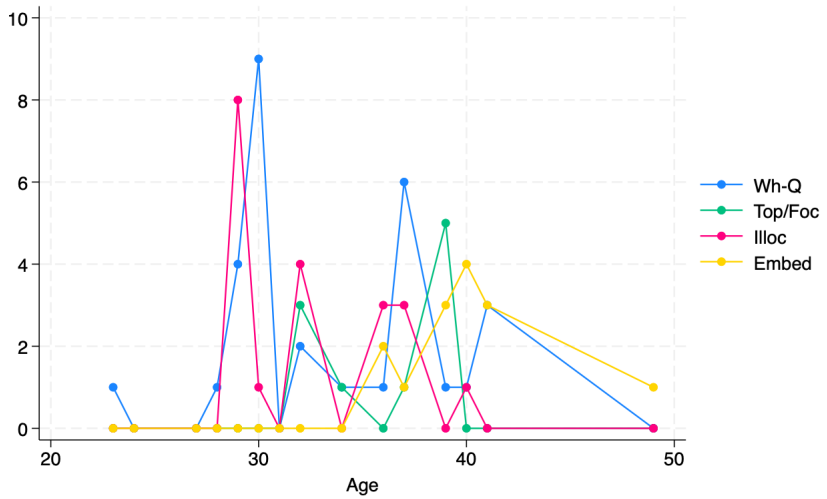

Figure 6: Development of CP-structures in Simon's Spanish

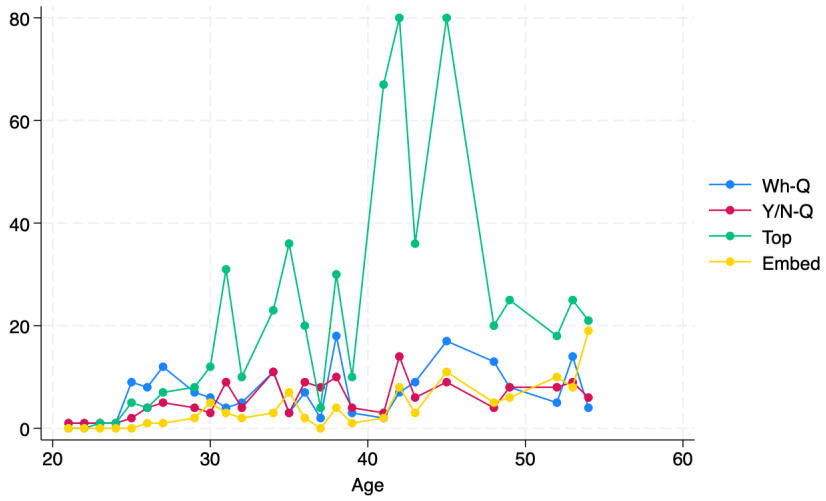

Figure 7: Development of CP-structures in Heleen's Dutch

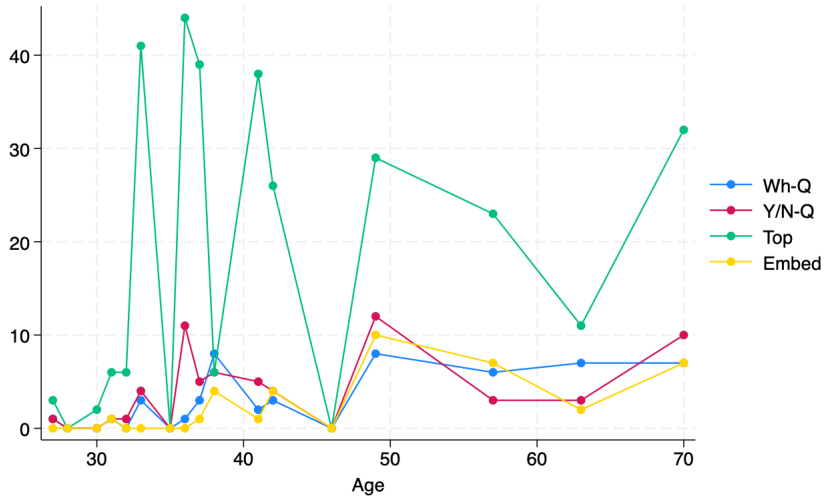

Figure 8: Development of CP-structures in Simon's German

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