On another topic, how do acquisition orders vary?
The left periphery and topicalization in bilingual and monolingual acquisition

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Handout

Acquiring the left periphery, and topics

Three independent questions regarding the acquisition of the left periphery, and functional categories more broadly:

❶ How, and in which order, are functional categories acquired?

❷ Are there crosslinguistically *universal* developmental stages? Which stages are *language-variant*, and what conditions this variation?

❸ What is the contribution of UG in (1-2)?
- Functional categories? Formal features?
- ...*And* universal developmental pathways (viz. maturation below)?

Traditional split in theories of acquisition of functional categories:

- **Bottom-up Maturation** → universally *late* CP (Radford, 1990; Rizzi, 1993; Friedmann et al., 2021).
- **Continuity** → functional category availability from the start. (Some) CP structures *early-acquired* (Boser et al. 1992; Poeppel & Wexler, 1993; Westergaard, 2009).
↪ Both groups largely theories of **developmental** **universals**: capturing (often *hard-wiring*) universal acquisition pathways.

Our contributions Zooming in on *developmental universals* and ***developmental variation*** by studying (i) 'earliness' of CP elements, (ii) crosslinguistic variation in topic acquisition.

> ### 🔍 The puzzle and our proposal
>
> (1) Systematic **evidence for early CP** in the data.
> (2) Crosslinguistically *flexible*, **L1-specific** timings of acquisition of **topics** (early/late).
> **Unclear**: How do we predict (1-2) with the above (universals-centred) toolkit?
> → **New proposed generalization**: **formal complexity** of topics (A/A', operator/non-operator), *not* syntactic maturation, conditions their emergence.
> → A **neo-emergentist** perspective on acquisition **predicts** this developmental variation (Biberauer & Roberts, 2015; Biberauer, 2019).

A corpus study: Germanic-Romance bilinguals

Study with **seven bilingual children**, focus on **two** here:
- **Heleen, Italian-Dutch** (Amsterdam corpus); **Simon, Spanish-German** (PhonBLA corpus).
- Both *strongly balanced* (per criteria in Hager & Müller, 2015).

Study 1 Left-peripheral structures

V-to-C (Germanic only) • Wh-Qs • Y/N-Qs (Germanic) • Top/Foc • Illocutionary complementizers (Romance) • Finite embedding

Study 2 Production of object/reflexive clitics relative to CLLD

Results

Study 1 **CP is early, topic-emergence is L1-dependent**

- **Romance**: *very early* wh-Qs, illocutionary comp., some ambiguous left-dislocations. *Late* CLLD.
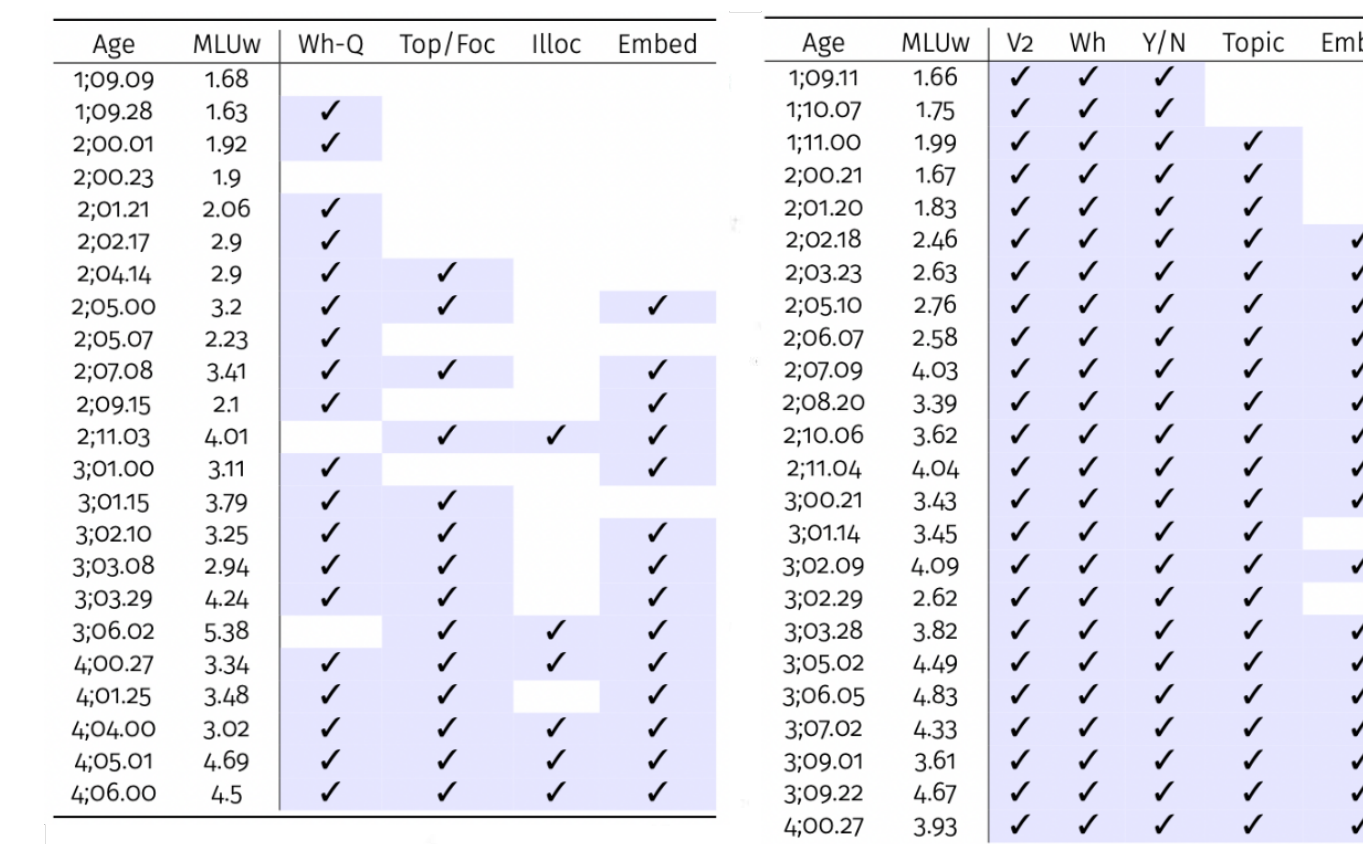- **Germanic**: *almost all* CP-structures emerge *early*, including topics.

Figure 1. Heleen's Italian and Dutch

Table 1. Emergence of all CP-structures for both children

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

Study 2 **Late CLLD development *not* due to late clitic development, it *inheres* in CLLD**: object/reflexive clitics are produced well before CLLD.

Table 2. Emergence of foci, clitics and CLLD

	Focalization	Reflexive clitics	Object clitics	CLLD
Heleen (It.)	2;05.00	1;09.09	2;00.01	2;07.08
	file 8	file 1	file 3	file 10
Simon (Sp.)	2;08.06	1;11.09	2;03.17	3;03.12
	file 27	file 15	file 19	file 33

The data *vs* existing theoretical approaches

(1) **Early CP**: ✗ bottom-up maturation. ✓ Continuity, inward maturation (i.a., Boser et al., 1992; Heim & Wiltschko, 2021).

(2) **Early *and* late topics**: ✗ bottom-up maturation, esp. cartographic Growing Trees (Friedmann et al., 2021).
↪ Compatible with continuity and inward maturation, *but insufficiently predictive*; elaboration required re L1 variation.

Needed: a theory *also* predicting developmental variation
Our suggestion: leveraging a *neo-emergentist* generative approach (Biberauer & Roberts, 2015; Biberauer, 2019).

- Minimal UG, importance of third-factors (Maximize Minimal Means): e.g., minimize $[F]$s, maximize already-existing $[F]$s.
→ CP macroparametric, hence early (see also Wexler, 1998).
→ Emergent, *non-hard-wired* acquisition pathways: L1-specific variation anticipated, and expected to correlate with variables such as *formal/parametric complexity*.

Next: formal, Kolmogorov complexity is the explanans, *not* syntactic maturation.

A solution: formal complexity, not maturation

- We posit a novel correlation with **parametric complexity**, esp. **[A/A']** and **operator/non-operator** properties (i.a., Koster, 1978; Cinque, 1999; van Urk, 2015).
- **Germanic**: generalized, pure A', **operator** V-to-C; few (no?) formal distinctions in its left periphery → **acquired** early.
- **Romance**: mixed A/A' properties, **non-operator** → requires **higher description length**, an additional featural distinction between kinds of [A'] (see also Bhatt & Keine, 2023; Chierchia, 2024) → **acquired** late.

↪ **Does this generalize crosslinguistically? ... Yes!**

Table 3. Crosslinguistic topicalization strategies, acquisition, formal complexity

Language	Acquisition	Formal characteristics of topicalization	Parametric complexity
French	Very early	Adjoined or base-generated	Macroparametric
Germanic V2	Very early	Generalized V2	Mesoparametric
Mandarin, Japanese, Korean	Early (?)	Operator movement or base-generation	Mesoparametric
European Portuguese (non-CLLD only)	Early	Operator movement	Mesoparametric
Catalan, Spanish	Late	Non-operator movement with CLLD	Microparametric
Greek	Late	Non-operator movement with CLLD	Microparametric
Hebrew	Late	Non-operator movement without CLLD	Microparametric
Brazilian Portuguese	Late	Non-operator movement without CLLD	Microparametric

❗ 'Late' topics in maturational work *epiphenomena* of L1s studied, *not* result of universal maturational constraints on CP.

(1) Topics in a crosslinguistic acquisition hierarchy
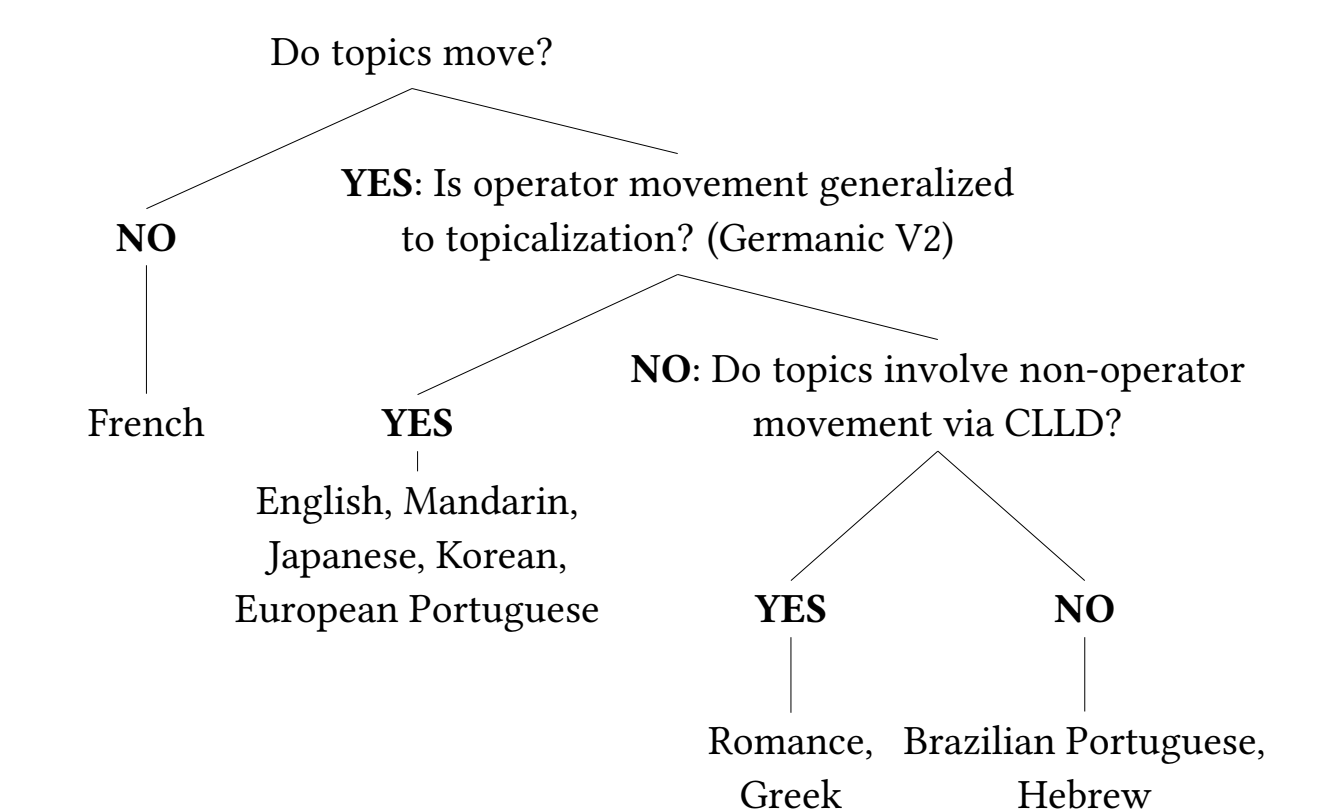
Empirical generalizations
Data corroborates generalizations in Bosch (2023) and Bosch & Biberauer (2024) – (i) **Early Acquisition of CP**, (ii) **Structural Height and Acquisition Mismatch**.

Plus brings forth a novel one...
L1-dependent Topic Development (**new!**). The timing of acquisition of topics (early/late) systematically correlates with the *formal, parametric complexity* of the topicalization strategies in each L1.

Implications: theorizing developmental variation

Two key results: (1) **(some) CP structure is early**, (2) **'flexible' topic acquisition crosslinguistically**. These are *predicted* under neo-emergentism:

- CP emerges early (supporting, i.a., Boser et al., 1992; Tsimpli, 2005; van Kampen, 2010; Heim & Wiltschko, 2021).
- No biological constraints on topic-development → **appears to 'track' formal complexity** crosslinguistically.
👉 Bolsters importance of *theorizing* L1-specific developmental pathways and of a **comparative** approach to acquisition.
→ Question: can this analysis be extended to other structures with mixed [A/A'] properties? (scrambling, Austronesian pivots, etc.)
→ Question: What's the role of the input and/or frequency?