Crosslinguistic Influence and the Second Language Learning of Tense-Aspect Systems

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L2 acquisition of non-equivalent linguistic and cognitive categories in Romance and Germanic languages: Transfer revisited

- Focus on "crosslinguistic influence" and "transfer" in L2 learning
  - What are these constructs?
  - What roles do they play in our understanding of L2 learning
  - How do we study them?

- Reconsider claims about crosslinguistic influence / transfer in L2 research

- Recommendations for theory building and study design in L2 tense-aspect research programs

Plan

- Setting the scene
- Some questions about CLI in SLA
- Probing a little at these claims
  - Study 1
  - Study 2
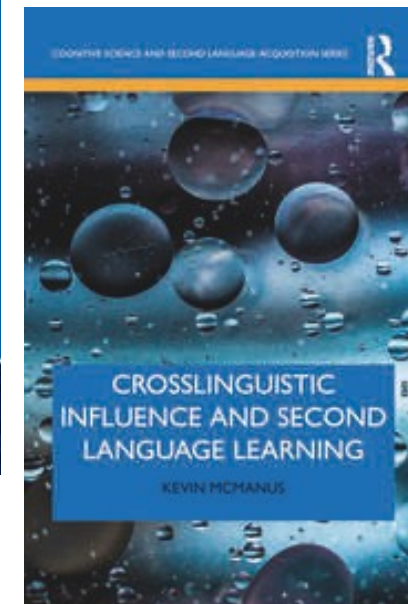- Moving forward
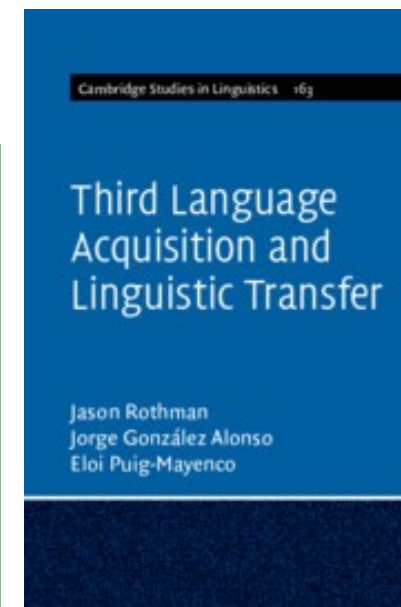- Recommendations for the field

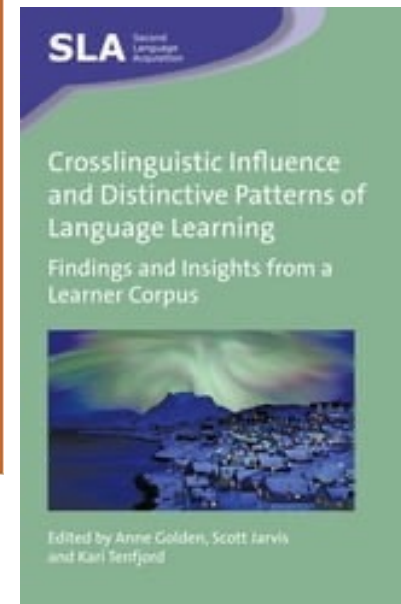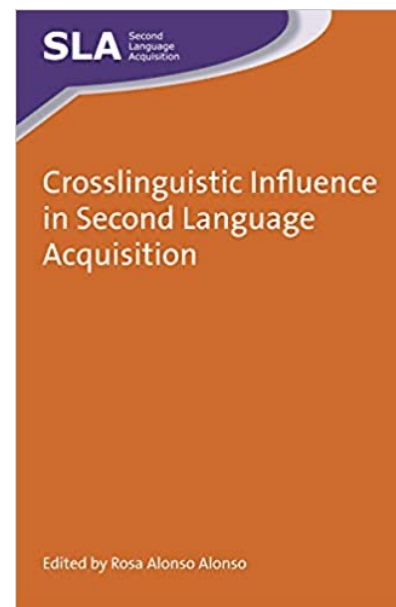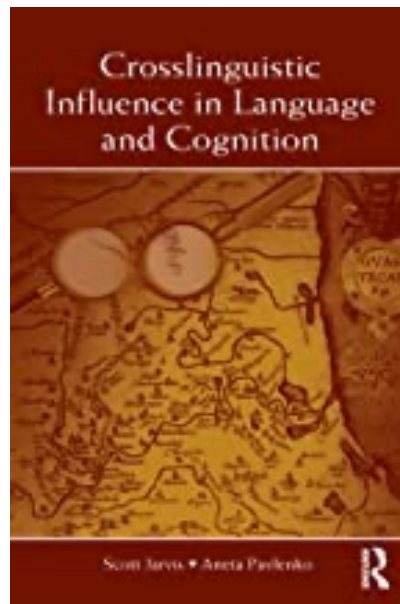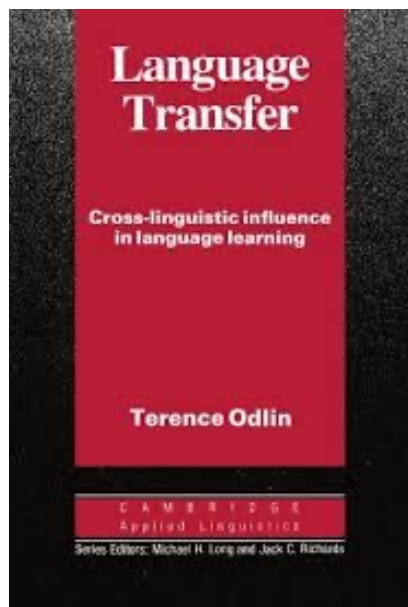CROSSLINGUISTIC INFLUENCE AND SECOND LANGUAGE LEARNING

KEVIN MCMANUS
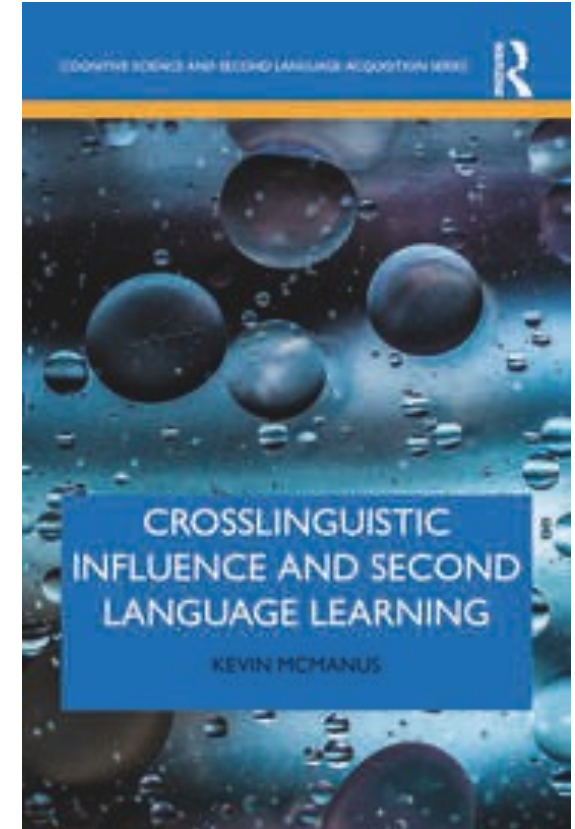
Crosslinguistic Influence and Transfer in SLA

Crosslinguistic Influence and Transfer in SLA

- Arguably one of the most common explanations and/or descriptions for L2 learning in our field

Crosslinguistic influence and Transfer in SLA

- "Transfer is the influence resulting from the similarities and differences between the target language and any other language that has been previously (and perhaps imperfectly) acquired" (Odlin, 1989, p. 27)

- "Transfer refers to the ways in which a person's knowledge of one language can affect his or her learning, knowledge and use of another language (cf. Jarvis & Pavlenko, 2008: 1). This term is often used interchangeably with crosslinguistic influence" (Jarvis, 2017, p.12)

- "Research about crosslinguistic influence seeks to describe and theorize the ways in which a speaker's cumulative experience with one or more languages can influence their processing and use of other languages" (McManus, 2022, p.1)

Crosslinguistic influence / Transfer in SLA

Relative agreement that:

- The labels crosslinguistic influence (CLI) and transfer are used interchangeably

- The signatures of CLI can be clear

- CLI works in many directions:
  - L1->L2
  - L2->L3
  - L2->L1

- Methods for studying CLI are practiced (see Jarvis, 2000)
  - E.g., comparing learners from multiple L1 backgrounds with same target language

Crosslinguistic influence / Transfer in SLA

- CLI plays a central role in many theories of L2 learning:
  - Competition Model (MacWhinney, 2005)
  - Associative-Cognitive CREED (Ellis, 2006)
  - Processing Determinism (O'Grady, 2012)
  - Inhibitory Control Model (Green, 1998)
  - Universal Grammar (e.g., White, 2003)

- Although these accounts might disagree about the nature of L2 learning, they are agreed that transfer is a key component of the L2 learning process

Crosslinguistic influence / Transfer in SLA

- Yet, despite the inescapable role of CLI in our field:
  - Very little is known about what transfer/CLI actually is
  - We can identify instances of transfer, but we do not really understand what triggers or leads to transfer

- As recently noted by O'Grady (2022)
  - "Transfer is arguably the single most important explanatory concept in the field, given its role in addressing the foundational puzzle of why second language learners make the particular types of errors that they do. Crucially, transfer itself needs to be explained: it is essential to understand why it exists and why it operates in the way that it does"

Jarvis & Pavlenko (2008); McManus (2022), Sharwood-Smith & Truscott (2006)

Crosslinguistic influence / Transfer in SLA

- Common understanding of transfer involves "copying and restructuring" rather than "moving"
  - Knowledge (e.g., L1) is copied
  - This copy is then modified (or "restructured") based on new experiences with language

- Schwartz and Sprouse (1993, 1996, 2021):
  - The starting point of SLA is quite distinct from that of L1 acquisition
  - All the principles and parameter values as instantiated in the L1 grammar immediately carry over as the initial state of a new grammatical system on first exposure to input from the target language.
  - This initial state of the L2 system will have to change in light of TL input that cannot be generated by this grammar: failure to assign a representation to input data will force some sort of restructuring of the system ('grammar')

Jarvis & Pavlenko (2008); McManus (2022), Sharwood-Smith & Truscott (2006)

Crosslinguistic influence / Transfer in SLA

- Not well understood:
  - How is transfer triggered?
  - Do changes to transferred knowledge also affect the source (e.g., L1)?
  - Is there some type of exposure threshold or (processing) difficulty that triggers transfer?
  - Does the copy-and- restructure conceptualization of transfer entail that L1 knowledge is separate from L2 knowledge?

- In other words:
  - "Given that transfer is a common label used in descriptions and explanations of L2 learning, it is problematic that we understand so little about it" (McManus, 2022, p.11)

Questions for a "copy and restructure" conceptualization of transfer?

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- The "copy and restructure" approach is intended to preserve L1 abilities
  - See discussion in Rothman et al. (2019), White (2003), Westergaard (2021)
  - "the intention of Schwartz and Sprouse (1996) seems to have been that the brain does make a real copy of the L1. This is most recently claimed in Rothman et al. (2019: 151), which refers to personal communication with Rex Sprouse (March 3, 2018), stating 'that the authors are clear about what full transfer means, namely a full copy of L1 grammatical representations'

- However, such an account is incompatible with a growing body of L2 research:
  - Morphosyntax
    - Dussias & Sagarra (2007)

  - Lexis
    - Kroll et al. (2002)
    - Jiang et al. (2020)

  - Phonology
    - Schumann (2016)

- This view of transfer leads to the same knowledge existing in multiple places
  - By copy and restructure, transfer leads to the same knowledge existing in multiple places (e.g., L1 system, L2 system)
  - Runs counter to "efficiency-driven processing"
  - See also Bernolet & Hartsuiker (2018)
    - Separate knowledge sources exist initially, but these become integrated over time when the information represented in L1 and L2 knowledge sources is the same and/ or similar

- While not necessarily problematic on its own, a relevant question for SLA theory is why this type of architecture is needed.

- Can we explain L2 learning without transfer?

Alternate views in keeping with contemporary L2 research?

Alternate conceptualizations of transfer?

- Work in emergentism and psycholinguistics seems to offer the most promise at this time
  - Especially for fine-tuning what transfer actually is and what role it plays in L2 learning

- For instance
  - L2 research examining the factors that influence the speed, accuracy, and stability of L2 processing
  - Work in language switching
  - Work on practice effects

Abutalebi & Green, 2007; DeKeyser, 1997; Ellis, 2006; O'Grady, 2011, 2013, 2022; Wu et a;. 2018; Zhang et al. 2015

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For example...

- L2 performance tends to be negatively impacted
  - when the same linguistic cues in L1 and L2 index different meanings
  - when L2 speakers switch between languages

- Cross-language relationships in the bilingual brain have shown parallel activation of a speaker's languages
  - use of one language activates other known languages

- As a result, L2 speakers must develop language selection mechanisms so that the appropriate language can be selected when required
  - Difficulties with language selection = crosslinguistic influence

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A closer look at some studies

Insights from three studies

In an instructional study, McManus and Marsden (2017) found that not all types of pre-practice explicit information led to L2 learning

- L2 learners matched for ability and proficiency at pre-test
- L2 learners completed the exact same practice
- Only difference = type of pre-practice EI received

- Follow-up studies to understand if performance during the practice could explain this finding
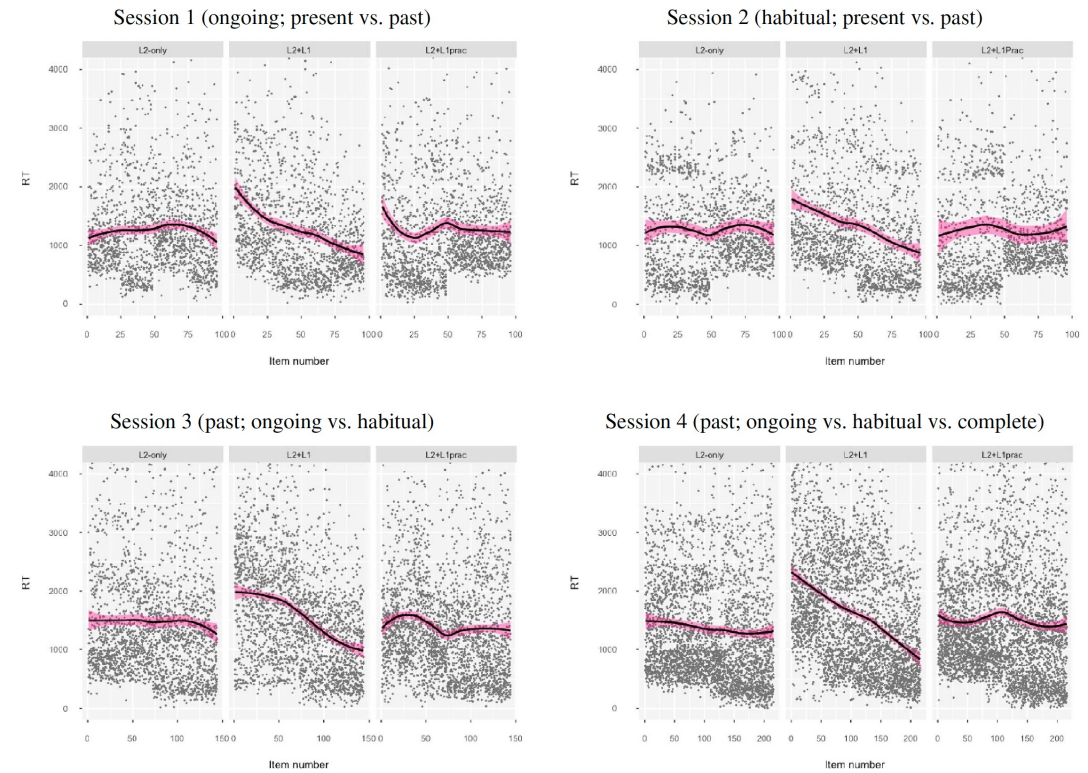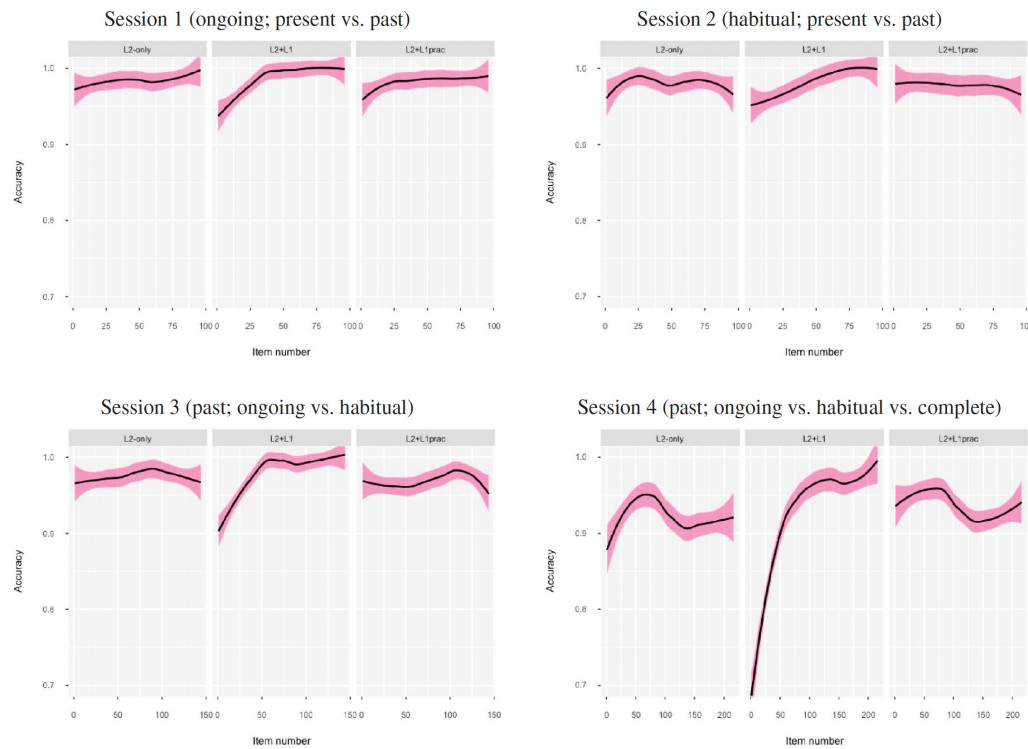
General design features

- English-speaking learners of L2 French (N=69)
  - L2-only
  - L2+L1
  - L2+L1prac

- Target feature – Viewpoint aspect forms in French
  - Imparfait (imperfective, ongoing & habitual), Passé Composé (perfective)
    - Pretests determined inadequate knowledge of target features
  - Corresponding English forms

- Accuracy, speed of sentence processing
  - L2 sentences
  - L1 sentences
  - Switching between L2 and L1 sentences

- Practice divided into four sessions of three weeks
  - Total number of practice items = 712
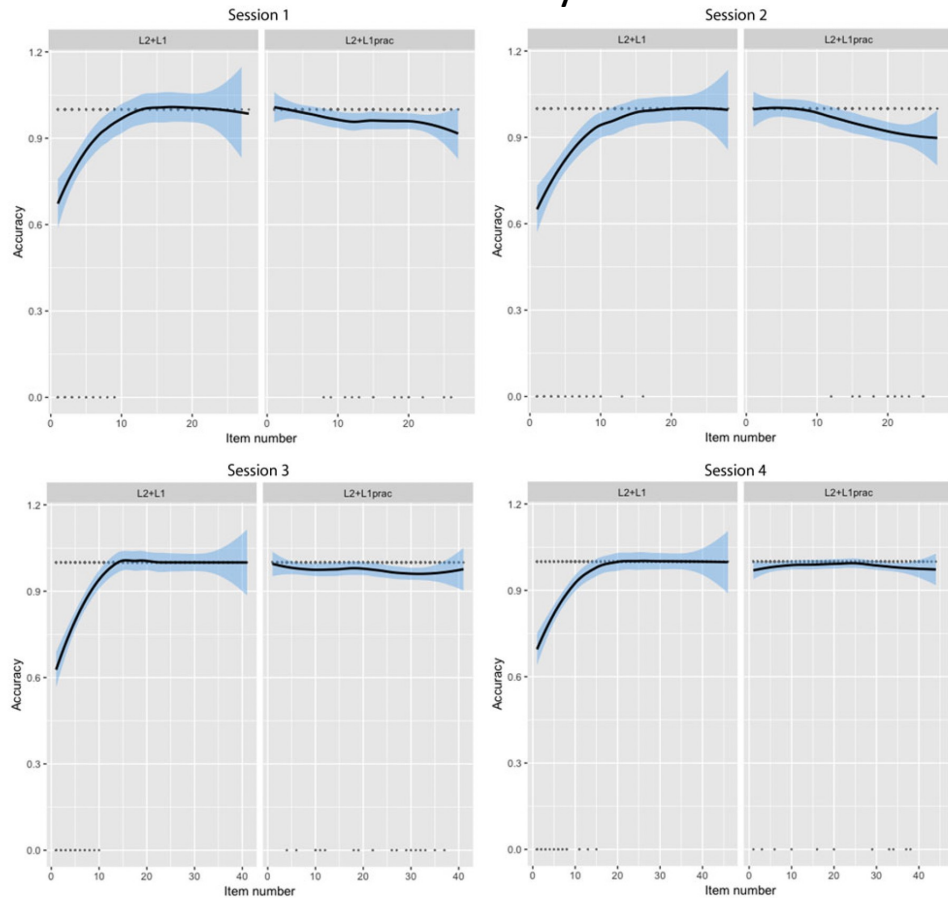
L2 knowledge building

Accuracy

Speed

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Language switching (L2 > L1)

Accuracy

Speed

McManus, K. (2021). Examining the effectiveness of language-switching practice for reducing cross-language competition in L2 grammatical processing. *Bilingualism: Language and Cognition*, *24*(1), 167-184.

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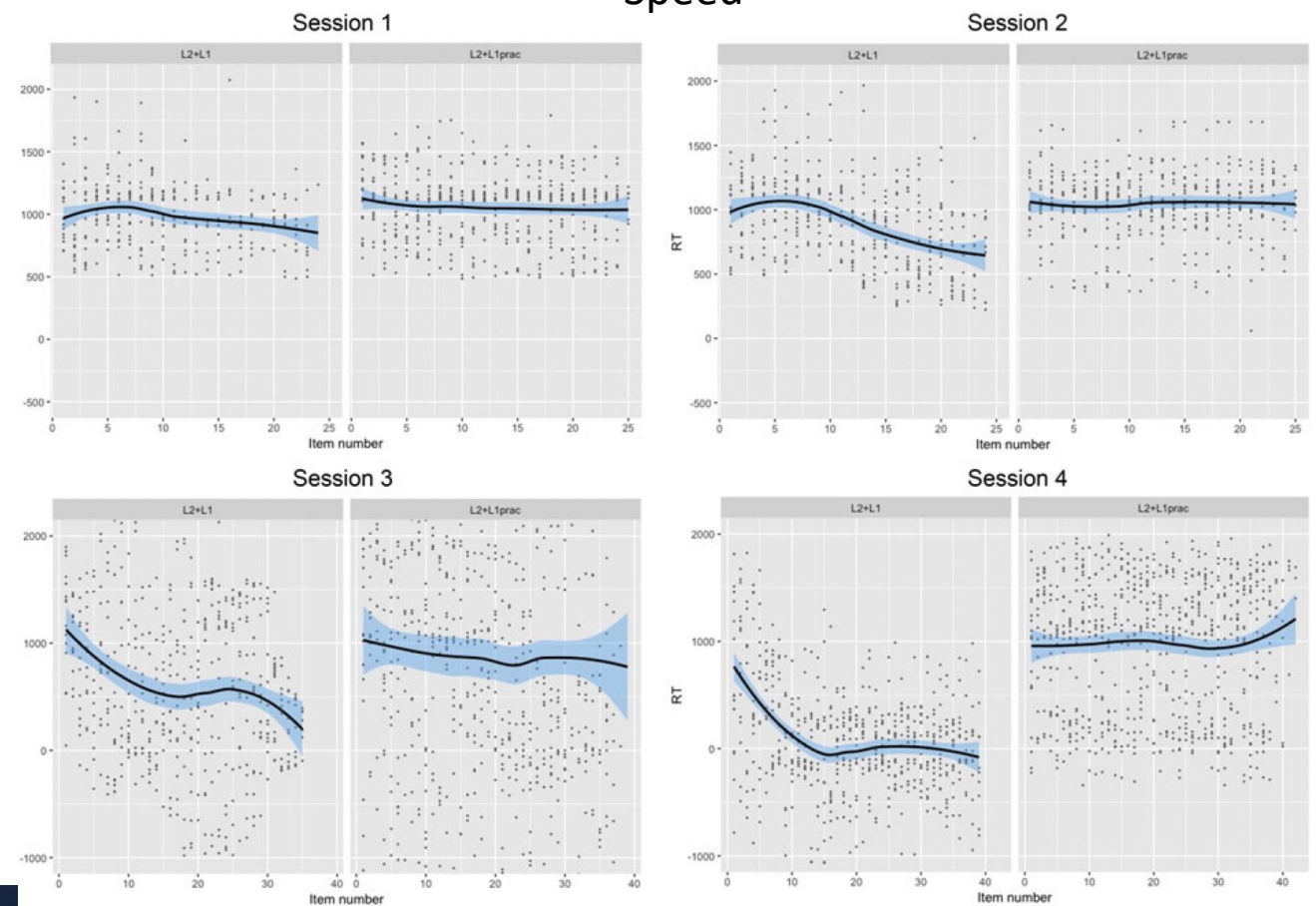
Summary of findings

- Follow-up studies to understand previously observed findings
  - Post-tests indicated large differences between groups for L2 abilities
  - Learners completed the same amount and type of practice
    - Would an analysis of performance during the practice help us understand why?

- Longitudinal analyses of L2 performance
  - L2 knowledge creation/and or restructuring in L2+L1 group only
- Longitudinal analyses of language switching
  - Switch costs reduced with increasing amounts of practice in L2+L1 group only

Revisiting Transfer

Firstly, why revisit CLI/Transfer anyway?

- "Transfer is arguably the single most important explanatory concept in the field, given its role in addressing the foundational puzzle of why second language learners make the particular types of errors that they do. Crucially, transfer itself needs to be explained: it is essential to understand why it exists and why it operates in the way that it does" (O'Grady, 2022)

Revisiting transfer

- The findings from these studies are consistent with a growing narrative in the field
  - Understandings of L2 development can be enriched by incorporating evidence from L1 performance
    - Kroll et al. (2002) – "initial L2 learning incurs a cost to L1"
    - Jiang et al. (2020) – Findings that L1 frequencies influence L2 word recognition indicate very close relationships between L1 and L2 knowledge structures

  - Language switching practice can enhance language selection abilities
    - Timmer et al. (2020) – also benefits other cognitive abilities (e.g., inhibition)
    - Costa & Santesteban (2004) - inefficient language switching abilities negatively impact the accuracy and speed of L2 processing

Revisiting Transfer

- In line with ongoing work in emergentism (e.g., O'Grady, 2005, 2011, 2022), this growing body of work allows us to revisit claims about transfer

- One proposal:
  - to resolve the negative effects of crosslinguistic influence, two components are required, minimally :
    - the creation/development of new processing routines that are both appropriate for L2 processing and potentially distinct from those used in L1 processing
    - The development of appropriate language selection mechanisms so the appropriate processing routine can be selected when required

- Difficulties associated with language selection result in crosslinguistic influence

- Under this view
  - Crosslinguistic influence is more simply the use of existing language knowledge to process new information
  - Knowledge does not need to be copied and then restructured,
    - Doing reduplicates information, which

    - See work in cognitive psychology (Anderson, 1982; Larsen- Freeman, 2013; Nokes, 2009)

- Instead, L2 learning involves:
  - the creation of new knowledge when L1– L2 differences exist
  - the creation and/ or development of selection mechanisms to manage and select among competing knowledge sources in L1 and L2 (McManus, 2021)

Ways to drive this research program forward

Ways to push this state of affairs forward?

- Developing an awareness about product and process
  - Cross-sectional study designs can tell us about what Ln knowledge looks like at that one point in time
  - Longitudinal studies can contribute nuance about how a system emerges and changes

- Proposals about transfer would benefit broader focus on multilingualism and learning
  - That is, how does new learning influence/shape the entire system?
    - When we focus on L2 knowledge, we miss this important piece of the puzzle

- Broadening the focus of SLA to include analyses of L1 data
  - L1 -> L2 is a useful starting point
  - L2 -> L1 can help inform understanding about the extent to which knowledge sources are connected and in what ways

Thank you for your attention!